DOCUMENT 00 90 00 ADDENDUM

ADDENDUM NO. [1] Date: September 1, 2020

RE: CITY OF SPARTA

SPARTA POLICE STATION LAKEVIEW

711 PINE STREET

SPARTA, WISCONSIN 54656 HSR PROJECT NO. 19042

FROM: HSR Associates, Inc.

100 Milwaukee Street La Crosse, WI 54603 (608) 784-1830

To: Prospective Bidders

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated August 2020. Acknowledge receipt of this Addendum in the space provided on the bid form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of [4] pages, [3] specification sections, and [17] 30 x 42 drawings.

CHANGES TO BIDDING REQUIREMENTS AND CONDITIONS OF THE CONTRACT:

1. Pre-bid attendance attached hereto.

GENERAL REQUIREMENTS:

2. Note to all contractors and subcontractors regarding existing condition of Sheffield Tile – as noted on drawing sheet(s) A090, A091, A092 and General Structural Notes on S001 applies to all contractors and subcontractors:

NOTE REGARDING SHEFFIELD TILE:

LAKEVIEW ELEMENTARY WAS CONSTRUCTED OF A SHEFFIELD TILE FLOOR AND ROOF SYSTEM. THIS SYSTEM WAS NEW AND EXPERIMENTAL AT THE TIME WITH SEVERAL SYSTEMS IN USE AT THE TIME. IT HAS PROVEN TO BE TROUBLESOME AS IT FAILS WITHOUT WARNING DUE TO DESIGN AND CONSTRUCTION ISSUES AND THE BRITTLENESS OF THE TILES. IT IS SENSITIVE TO OVER LOADING AND CORING. THE SYSTEM HAS NO REAL WAY TO SHARE LOADS AROUND OPENINGS LIKE TODAYS PRECAST PLANK HEADER SYSTEM, SO CHASES AND LARGER OPENINGS OFTEN REQUIRE LARGER STRUCTURAL FRAMED OPENINGS. THE FLOOR AND ROOF AT LAKEVIEW HAVE BEEN SURVEYED IN THE PAST AND NOTED DEFLECTION HAS OCCURRED IN SEVERAL ROOMS. THIS DEFLECTION HAS ENGAGED NORMALLY NON-STRUCTURAL WALL INTO A BEARING CONDITION.

THE DESIGN TEAM HAS ATTENDED TO MOST OPENINGS ANTICIPATED FOR FINAL CONSTRUCTION OF THE RENOVATION. IT IS RECOMMENDED THAT THE FLOORS ARE NOT USED FOR STORAGE OF MATERIALS. MEANS AND METHODS APPROACHES TO CORING, LOADING AND TEMPORARY CONSTRUCTION SHOULD BE REVIEWED BY

THE CONTRACTOR AND THEIR TEAM TO ASSURE THE SAFETY OF PERSONNEL AND THE STABILITY OF THE STRUCTURE.

CHANGES TO SPECIFICATIONS:

3. Section 07 21 19 FOAMED-IN-PLACE INSULATION

a. Revised section attached hereto as part of Contract Documents. Open cell product added and product selections for closed cell updated. Products shall be single sourced.

4. Section 08 11 13 HOLLOW METAL DOORS AND FRAMES

a. 2.06, A: Delete "factory installed" at the end of the sentence.

5. Section 08 71 00 DOOR HARDWARE

- a. 2.09, B, 3: Change "RHO" to "SPA".
- b. 3.05.
 - i. Group 6: Add "BF" in front of product number for the Pull.
 - ii. Group 20 and 21: Change "Storeroom Lock" to "Lock w/ Dummy Cover"

6. Section 11 40 01 CUSTOM FABRICATED STAINLESS STEEL COUNTERTOP

a. Added section attached hereto as part of Contract Documents.

7. Section 23 09 93 SEQUENCE OF OPERATIONS

- a. 3.30, Add the following:
- b. 3.30 DEHUMIDIFICATION CONTROL (EDH-1)
 - i. Provide a space humidity sensor to control the electric duct heaters provided under Section 23 82 16 Duct Coils.
 - ii. Humidity control shall be set to maintain a 40% relative humidity (adjustable) in the return air when the unit is in mechanical cooling mode. Maximum return air humidity shall be 60%.
 - 1. Dehumidification shall not be operational if the fan is off (sensed by the airflow switch) or the system is in heating mode.
 - iii. Space humidity and high limit shall be monitored by the BAS.
 - iv. If heating water is available modulate heating water valve to maintain humidity set point. If heating water is not available stage the electric duct coil.

8. Section 23 82 16 DUCT COILS

a. Added section attached hereto as part of Contract Documents.

CHANGES TO DRAWINGS

- 9. Sheet A091 FIRST FLOOR REMOVAL PLAN 30 x 42 attached hereto
 - a. Revisions clouded on drawing.
 - b. Modified keynotes 13 & 37.
 - c. Added keynotes 38 & 39.
 - d. Slab saw cut for underfloor electrical.

10. Sheet A100 BASEMENT REMODEL PLAN 30 x 42 attached hereto

- a. Revisions clouded on drawing.
- b. Added keynote 37.
- c. Added site photo 2A100 & 3A100
- d. Enclosed tunnel access.

11. Sheet A101 FIRST FLOOR REMODEL PLAN AREA A 30 x 42 attached hereto

- a. Revisions clouded on drawing.
- b. Added keynote 36.
- c. Patch concrete slab at underfloor electrical work.

12. Sheet A112 SECOND FLOOR RCP AREA A 30 x 42 attached hereto

- a. Revisions clouded on drawing.
- b. Unistrut / framing added above existing stairwell locations.

13. Sheet A210 INTERIOR ELEVATIONS & CASEWORK 30 x 42 attached hereto

- a. Revisions clouded on drawing.
- b. Counter top material clarification.

14. Sheet A503 DETAILS (No Drawing reissued)

- a. 3A503: Delete reference to "drip cap". None required.
- 15. Sheet ID600 MASTER COLOR SCHEDULE 30 x 42 attached hereto

16. Sheet M101 – FIRST FLOOR DUCTWORK REMODEL 30 x 42 attached hereto

- a. Enlarged ductwork and changed diffusers in Evidence 108, served by BC-3.
- b. Added an electric duct coil and humidity sensor.

17. Sheet M102 – SECOND FLOOR DUCTWORK REMODEL 30 x 42 attached hereto

- a. Enlarged supply and return ductwork serving BC-3, and minimum outside air duct serving BC-4 in Mechanical 203.
- 18. Sheet M103 ROOF PLAN 30 x 42 attached hereto
 - a. Increased the size of CU-3.
- 19. Sheet M502 -HVAC DETAILS AND SCHEDULES 30 x 42 attached hereto
 - a. Added Electric Duct Coil Schedule.
- 20. Sheet M600 HVAC SCHEDULES 30 x 42 attached hereto
 - a. Changed the size of BC-3 in the Blower Coil Unit Schedule.
 - b. Changed the size of CU-3 in the Air Cooled Condensing Unit Schedule.

21. Sheet E090 - FIRST FLOOR & BASEMENT REMOVAL PLANS 30 x 42 attached hereto

- a. Revisions clouded on drawings.
- b. Revisions to General Removal notes.

22. Sheet E091 - SECOND FLOOR REMOVAL PLAN 30 x 42 attached hereto

a. Revisions to General Removal notes.

23. Sheet E101 - FIRST FLOOR LIGHTING PLAN 30 x 42 attached hereto

- a. Revisions clouded on drawings.
- b. Revisions Light fixture schedule.

24. Sheet E200 - FIRST FLOOR POWER PLANS 30 x 42 attached hereto

- a. Revisions clouded on drawings.
- b. Revisions to Panel locations in Mech. room 115B, to clear mechanical coil piping.
- c. Relocated exterior generator double throw safety switch.

25. Sheet E201 - SECOND FLOOR POWER 30 x 42 attached hereto

- a. Revisions clouded on schedules.
- b. Added Electric Duct Heater EDH-1, to equipment schedule.

26. Sheet E600 - ELECTRIC RISER DIAGRAM ANS SCHEDULES 30 x 42 attached hereto

a. Added circuit breaker to Panel A, for EDH-1.

PRIOR APPROVALS

- 1. Section 08 71 00 DOOR HARDWARE: For Butt Hinges, Pulls and Roller Latches; Ives.
- Section 09 84 30 SOUND-ABSORBING WALL AND CEILING UNITS: PanelTech Acoustics and Commercial Interior Acoustical Panels.
- 3. <u>Section 10 51 15 WELDED PERSONAL STORAGE LOCKERS</u>: Tiffin Metal Products; Infinity Locker system and Evidence Lockers.
- 4. Section 23 62 13 Air Cooled Condensing Units, 2.01 & 2.02: Fraser-Johnston.
- 5. Section 23 72 13 Small Energy Recovery Ventilators, 2.01: Aldes.
- 6. Section 23 73 33 Indoor Indirect Gas-Fired Heat & Vent, 2.01: AbsolutAire, RuppAir.
- 7. Section 23 74 13 Packaged Gas-Electric Rooftop Units, 2.01: Fraser-Johnston.
- 8. <u>Section 23 83 16 Radiant Floor Systems, 2.01</u>: Roth X-PERT S5 Tubing, HeatLink PEX-a Tubing, Manifolds and Accessories.

END OF DOCUMENT 00 90 00

"SIGN-IN" SHEET

PROJECT: Sparta Police Station Lakeview

HSR NO.: 19042

DATE: August 28, 2020

PLEASE PRINT ALL INFORMATION CLEARLY



Celebrating 65 Year's of Innovative Design 100 Milwaukee Street 608,784.1830 La Crosse, WI 54603 www.hsrassociates.com

NAME	COMPANY	E-MAIL ADDRESS	PHONE
Jim Newsoll	VIKING AUTO SEKC	jm. neubde tiki yspeinkloju	189-912
Scorr Stangel	KistSons	Bids @ Kishelectric	
Andrew Sell Vys	Wisson Brotles	ordonism tree 5	of or
GraBush	Bush Electric	grego bus - Gedric .com	715-696-968
DAN Mille	Borta	dannik 2 bata	775-0100
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TRO RIVALSON	V C.P.S,	TANUNSON Ecompater	920 Ketak 722 128
Steve LETS	LEIS EXCAUNT	relais diggs @coulumentel.	uet 487-09
MATT BRUELL	AMERICAN	mbesnellCanoniconens	608-387-9170 ructionco.com
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NAME	COMPANY	E MAII ADDDESS	DHONE
		E-MAIL ADDRESS	PHONE
MASON MUELLER	POELLINGER ELECTRIC	MASON@ POELLINGER ELECTRIC. COM	
Chick Foll		Chall to Pote 1 get medical a	I
Mike Rockle	_	Mike rockle @ wolterps. com	
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Marek Sund	1.0	TREAS O "	//
TODD KAHNING	41	3LDC @ "	//
DALTON LUNDE	MARKET & JOHNSON	dlunde@market-johnson.a	m 608-769-21
Paul Guese	FOWLER & HAMMER	bids Cfowlerhammer con	n 608-782-684)
MIKEALLEN	FOWLER & HAMMEN	a // li	608-782-68
BRENT GOERS	CUSTOFOAN ROOFING	ABUCHMEIER DeustoFe	an. con 547.
Michael Diehe	Brick/ Bros	maichlebricklbros.com	608-769-92
Wade Linz	10.	when 2 a blait fire patection con	
8 6 reg Bush	Bush Bledric	greg Dbush-electric com	715-896-9683

SECTION 07 21 19 Revised FOAMED-IN-PLACE INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Foamed-in-place insulation. Single source both open and closed cell products.
 - 1. In cavity walls.
 - 2. At junctions of dissimilar wall and roof materials.
 - 3. At exterior walls of existing building behind gypsum board at furring.

1.02 RELATED REQUIREMENTS

- A. Section 04 20 00 Unit Masonry: Flashings related to masonry installation.
- B. Section 04 20 00 Unit Masonry: Mock-up instructions.
- C. Sections 07 21 00 Thermal Insulation.

1.03 REFERENCE STANDARDS

- A. ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2015.
- B. ASTM D2842 Standard Test Method for Water Absorption of Rigid Cellular Plastics; 2012.
- C. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials; 2016.
- D. ASTM E96/E96M Standard Test Methods for Water Vapor Transmission of Materials; 2016.
- E. ASTM E2178 Standard Test Method for Air Permeance of Building Materials; 2013.
- F. ASTM E2357 Standard Test Method for Determining Air Leakage of Air barrier Assemblies.

1.04 SUBMITTALS

- A. See Section 01 30 00 Administrative Requirements, for submittal procedures.
- B. Product Data: Provide product description, insulation properties, overcoat properties, and preparation requirements. Documentation that applied product is compatible with all substrates installed on the project.
- C. Certificates: Certify that products of this section meet or exceed specified requirements.
- D. Manufacturer's Installation Instructions: Indicate special procedures, and perimeter conditions requiring special attention.
- E. Manufacturer Qualification: Submit documentation of current evaluation of proposed manufacturer and materials.
- F. Installer Qualification: Submit documentation of current contractor accreditation and current installer certification. Keep copies of all contractor accreditation and installer certification on site during and after installation. Present on-site documentation upon request.
- G. Daily work record reports.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with not less than three years of documented experience.
 - 1. Obtain primary ABAA Evaluated Materials from a single ABAA Evaluated Manufacturer regularly engaged in manufacturing specified closed cell, medium density spray polyurethane foam. Obtain secondary materials from a source acceptable to the primary materials manufacturer.
- B. Air Barrier Subcontractor Qualifications: Air barrier Subcontractor(s) shall be accredited at the time of bidding and during the complete installation period by the Air Barrier Association of America (ABAA) whose Installer(s) are certified in accordance with the site Quality Assurance Program used by ABAA.
 - 1. Closed cell, medium density sprayed polyurethane foam air barrier Installer(s) shall be certified by BPQI (Building Performance Quality Institute) for the ABAA Quality Assurance Program in accordance with the requirements outlined in the QAP program used by ABAA. Installers shall have their photo-identification air barrier certification cards in their possession and available on the project site, for inspection upon request.

1.06 PRECONSTRUCTION MEETING

A. Preconstruction Meeting: Convene a minimum of two weeks prior to commencing Work of this Section. Agenda shall include, at a minimum, construction and testing of mock-up, sequence of construction, coordination with substrate preparation, air barrier materials approved for use, compatibility of materials, coordination with installation of adjacent and covering materials including weatherproofing of top of wall at the end of each day of insulation application, use of scaffolding, lifts and staging and details of construction and chemical/fire safety plans. Attendance is required by representatives of related trades including covering materials, substrate materials and adjacent materials.

1.07 REGULATORY REQUIREMENTS

A. Conform to applicable code for flame and smoke limitations.

1.08 MOCK-UP

- A. Refer to Section 04 20 00 for mock-up instructions.
 - Mock-up shall be representative of primary air barrier assemblies including backup wall and typical
 penetrations as acceptable to the Architect. Mock-up area indicated is 2 feet wide by 4 feet high.
 Include the air barrier materials and air barrier accessories proposed for use in the exterior wall
 assembly.

1.09 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to Project site in original packages with seals unbroken, labeled with the material manufacturer's name, product, date of manufacture, and directions for storage.
- B. Store materials in their original undamaged packages in a clean, dry, protected location and within temperature range required by material manufacturer. Protect stored materials from direct sunlight and other sources of ultra-violet light.
- C. Handle materials in accordance with material manufacturer's recommendations.

1.10 FIELD CONDITIONS

- A. Sequence work to ensure timely placement of insulation within construction spaces.
- B. Do not apply foam when the temperature is below that specified by the manufacturer for ambient air and substrate or when temperature is within 5 degrees F of dew point.
- C. Sequencing. Do not install air barrier material before the roof assembly has been sufficiently installed to prevent a buildup of water in the interior of the building.

1.11 WARRANTY

- A. Material Warranty: Provide primary material manufacturer's standard product warranty, from date of Substantial Completion.
- B. Subcontractor (approved by ABAA and Manufacturer) Installation Warranty: Provide a two (2) year installation warranty from date of Substantial Completion, including all accessories and materials of the air barrier assembly, against failures including loss of air tight seal, loss of watertight seal, loss of attachment, loss of cohesion/adhesion and failure to cure properly.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Foamed-In-Place Insulation: Low-density, flexible, open cell water vapor permeable polyurethane foam; foamed on-site, using blowing agent of water or non-ozone-depleting gas.
 - 1. Regulatory Requirements: Comply with applicable code for flame and smoke, concealment, and overcoat limitations.
 - 2. Thermal Resistance: R-value of 3.0, minimum, per 1 inch thickness at 75 degrees F mean temperature when tested in accordance with ASTM C518.
 - 3. Air Permeance: 0.04 cfm per square foot, maximum, when tested at intended thickness in accordance with ASTM E2178 at 1.57 psf.
 - 4. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/450, maximum, when tested in accordance with ASTM F84.

- 5. Manufacturers:
 - a. BASF Corporation; ENERTITE NM: www.spf.basf.com/#sle.
 - b. Carlisle Spray Foam Insulation; SealTite Pro High Yield: www.carlislesfi.com/#sle.
 - c. Demelic (USA) Inc.: Sealection 500 or Sealection NM. www.demelic.com
 - d. Gaco Western; Gaco 052N: www.gaco.com/#sle.
 - e. Henry Company; Permax 0.5: www.henry.com/#sle.
 - f. Icynene-Lapolla; Icynene Classic Plus: www.icynene.com/#sle.
 - g. Johns Manville; JM ocSPF Open Cell Spray Polyurethane Foam: www.jm.com/#sle.
 - h. Lapolla Industries, Inc; Foam-Lok 500. www.lapolla.com
 - i. NCFI Polyurethanes; InsulStar Light. www.ncfi.com
 - j. Rhino Linings Corporation; ThermalGuard OC.5: www.rhinolinings.com/#sle.
 - k. SWD Urethane: Quik-Shield 108YM. www.swdyrethane.com
 - I. Substitutions: See Section 01 60 00 Product Requirements.
- B. Foamed-In-Place Insulation: Medium-density, closed cell polyurethane foam; foamed on-site, using blowing agent of water or non-ozone-depleting gas.
 - 1. Aged Thermal Resistance: R-value of 6.5 (deg F hr sq ft)/Btu, minimum, when tested at 1 inch thickness in accordance with ASTM C518 after aging for 180 days at 41 degrees F.
 - 2. Water Vapor Permeance: Vapor retarder; 2 perms, maximum, when tested at intended thickness in accordance with ASTM E96/E96M. desiccant method.
 - 3. Water Absorption: Less than 2 percent by volume, maximum, when tested in accordance with ASTM D2842.
 - 4. Air Permeance: 0.04 cfm per square foot, maximum, when tested at intended thickness in accordance with ASTM E2178 at 1.57 psf.
 - 5. Assembly Performance: Provide a continuous air barrier in the form of an assembly that has an air leakage not to exceed 0.04 cubic feet per minute per square foot under a pressure differential of 1.57 pounds per square foot (0.04 cfm/ft2 @ 1.57 psf) [0.2 liters per square meter per second under a pressure differential of 75 Pa (0.2 L/(s·m2) @ 75 Pa)] when tested in accordance with ASTM E2357. The assembly shall accommodate movements of building materials by providing expansion and control joints as required. Expansion / control joints, changes in substrate and perimeter conditions shall have appropriate accessory materials at such locations.
 - a. The air barrier assembly shall be capable of withstanding combined design wind, fan and stack pressures, both positive and negative on the envelope without damage or displacement, and shall transfer the load to the structure.
 - b. Closed cell, medium density spray polyurethane foam air barriers shall not displace adjacent materials in the assembly under full load.
 - c. The air barrier assembly shall be joined in an airtight and flexible manner to the air barrier materials of adjacent assemblies, allowing for the relative movement of assemblies due to thermal and moisture variations, creep, and anticipated seismic movement.
 - 6. Closed Cell Content: At least 90 percent.
 - 7. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/450, maximum, when tested in accordance with ASTM E84.
 - 8. Connections to Adjacent Materials: Provide connections to prevent air leakage at the following locations:
 - a. Foundation and walls, including penetrations, ties and anchors.
 - b. Walls, windows, curtain walls, storefronts, louvers and doors.
 - c. Different assemblies and fixed openings within those assemblies.
 - d. Wall and roof connections.
 - e. Floors over unconditioned space.
 - f. Walls, floor and roof across construction, control and expansion joints.
 - g. Walls, floors and roof to utility, pipe and duct penetrations.
 - h. All other potential air leakage pathways in the building envelope.

- 9. Manufacturers:
 - a. BASF Corporation; WALLTITE US: www.spf.basf.com/#sle.
 - b. Carlisle Spray Foam Insulation; SealTite Pro One Zero: www.carlislesfi.com/#sle.
 - c. Demilic (USA) Inc.: Demilic XT-w. www.demilic.com
 - d. Gaco Western; GacoOnePass F1850R: www.gaco.com/#sle.
 - e. Henry Company; Permax 0.5: www.henry.com/#sle.
 - f. Icynene-Lapolla; Icynene ProSeal: www.icynene.com/#sle.
 - g. Johns Manville; JM Corbond III Closed Cell Spray Polyurethane Foam: www.jm.com/#sle.
 - h. Lapolla Industries, Inc; Foam-Lok 2000-4G. www.lapolla.com
 - i. NCFI Polyurethanes; ThermalStop or InsulStar. www.ncfi.com
 - j. Rhino Linings Corporation; ThermalGuard CC2: www.rhinolinings.com/#sle.
 - k. SWD Urethane: Quik-hield 118. www.swdyrethane.com
 - I. Substitutions: See Section 01 60 00 Product Requirements.

2.02 ACCESSORIES

- A. Primers, Mastics and Sealants for Transition Membranes and Counter-flashing for Through-Wall Flashing: A material deemed acceptable to the manufacturer of that material.
- B. Membrane at Transitions in Substrate and Connections to Adjacent Elements: Including, but not limited to one of the following as acceptable to the Spray Polyurethane Foam Air Barrier Manufacturer:
 - 1. HENRY Blueskin SA Self Adhesive Air/Vapor Barrier Membrane
 - 2. HENRY Blueskin SA LT Low Temp SA Air/Vapor Barrier Membrane
 - 3. Perm-A-Barrier Flashing by Grace Construction Products.
 - 4. CCW-705 TWF by Carlisle Coatings and Waterproofing
 - 5. Poly Wall Self Adhering Flashing by Polyguard Products, Inc.
 - 6. ExoAir 110 by Tremco, Inc.
 - 7. Air Shield by W R Meadows, Inc.
- C. Transition Membrane between Air Barrier Membrane and Roofing and Other Adjacent Materials: Comply with both air barrier manufacturer's recommendations and material manufacturer's recommendations.
- D. Substrate Joint Treatment Materials: Prepare the substrate joints with the following materials:
 - 1. Air Shield by W. R. Meadows, Inc.
 - 2. Blueskin SA by Henry.
 - 3. CCW-705 TWF by Carlisle Coatings and Waterproofing.
 - ExoAir 110 by Tremco, Inc.
 - 5. Perm-A-Barrier Flashing by Grace Construction Products.
 - 6. Poly Wall Self Adhering Flashing by Polyguard Products, Inc.

PART 3 EXECUTION

3.01 EXAMINATION

- A. The ABAA Certified Air Barrier Contractor shall examine substrates, areas, and conditions under which the air barrier assembly will be installed, with Construction Manager, ABAA Certified Installer present, for compliance with the following requirements.
 - 1. Confirm site access logistics and scheduling requirements.
- B. Verify work within construction spaces or crevices is complete prior to insulation application.
- C. Verify that surfaces are clean, dry, and free of excess mortar or other matter that may inhibit insulation adhesion.
 - 1. Inspect substrates to be smooth without large voids or sharp protrusions. Inform Construction Manager if substrates are not acceptable and need to be repaired by the concrete sub-trade.
 - 2. Inspect masonry joints to be reasonably flush and completely filled, and ensure all excess mortar sitting on masonry ties has been removed. Inform Construction Manager if masonry joints are not acceptable and need to be repaired by the mason sub-trade.
 - 3. Verify substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D4263 and take suitable measures until substrate passes moisture test.
 - 4. Verify sealants are compatible with membrane proposed for use. Perform field peel-adhesion test on materials to which sealants are adhered.

5. Notify Construction Manager in writing of anticipated problems using closed cell, medium density spray polyurethane foam over substrate prior to proceeding.

3.02 PREPARATION

- A. Provide all personal protective equipment for duration of product application.
- B. Mask and protect adjacent surfaces from over spray or dusting.
- C. Erect barriers, isolate area and post warning signs to advise non-protected personnel to avoid the spray area.
- D. Confirm installation of blocking at opening perimeters by other trades to allow installation of air barrier transition membranes.
- E. Apply primer in accordance with manufacturer's instructions. Confirm application rate on sheathing to determine effective rate of application.
 - 1. Prime masonry, concrete substrates with primers.
 - 2. Prime glass-fiber surfaced gypsum sheathing with an adequate number (if applicable) of coats to achieve required bond, with adequate drying time between coats.
 - 3. Prime wood, metal, aluminum, structural steel, sheet metal, and painted substrates with primer.
 - 4. Clean galvanized metal of oil residue.
 - 5. Prepare, treat, and seal vertical and horizontal surfaces at terminations and penetrations through air barrier and protrusions.
- F. Install polyethylene or similar bond break at piping and other protrusions.
- G. Transition Strip Installation: Install air barrier accessories and closed cell, medium density spray polyurethane foam to provide continuity throughout the building envelope. Install materials in accordance with manufacturer's instructions and the following:
 - 1. Position subsequent sheets of membrane applied above so that it overlaps the membrane sheet below by a minimum of 2.0 inches (50 mm), unless greater overlap is recommended by material manufacturer. Roll into place with roller ensuring all transition membranes are free of fish-mouths, wrinkles, delaminations, bubbles and voids.
 - 2. Overlap horizontally adjacent pieces of membrane a minimum of 2.0 inches (50 mm), unless greater overlap is recommended by material manufacturer. Roll all areas of membrane including seams with roller.
 - 3. Connect air barrier in exterior wall assembly continuously to the air barrier of the roof, to concrete below-grade structures, to windows, curtain wall, storefront, louvers, exterior doors and other intersection conditions and perform sealing of penetrations, using accessory materials and in accordance with the manufacturer's recommendations.
 - 4. Provide transition membrane, sealant, mastic, membrane counter-flashing or other material recommended by spray polyurethane foam manufacturer at 90 degree inside or outside corners. Follow spray polyurethane foam manufacturer's instructions for instructions on how to treat interlocked CMU or structurally-attached 90 degree cast-in place concrete corners.
 - 5. Provide mechanically fastened non-corrosive metal sheet to span gaps greater than 1.0 inch (25 mm) in substrate plane and to make a smooth transition from one plane to the other. Membrane shall be continuously supported by substrate.
 - 6. At through-wall flashings, provide an additional 6.0 inch (150mm) wide strip of manufacturer's recommended membrane counter-flashing to seal top of through-wall flashing to membrane. Seal exposed top edge of strip with bead of mastic or as recommended by manufacturer.
 - 7. At deflection and control joints, provide backup for the membrane to accommodate anticipated movement.
 - 8. Install extruded insulation strips at perimeter of openings to prevent overspray to frames.
 - 9. Ensure that membranes at terminations have a pull adhesive of 16 psi or greater.

3.03 APPLICATION

- A. Apply insulation in accordance with manufacturer's instructions.
- B. Refer to Wall Type details for location of open cell and closed cell foam. Open cell is identified specifically. All locations identified as "spray foam insulation" shall be closed cell.
- C. Apply insulation by spray method, to a uniform monolithic density without voids.

- D. Apply to a minimum cured thickness of 2 inch. An additional pass of 2.0 inches (50 mm) shall only be done after the first pass has had time to cool down. At no time shall more than 4.0 inches (100 mm) be installed in a single day. There are no exceptions to this requirement as it is a health and safety requirement.
- E. Install within material manufacturer's tolerances, but not more than minus ¼ inch (6 mm).
- F. Finished surface of foam insulation to be free of voids and embedded foreign objects.
- G. Complete connections to other air barrier components and repair any gaps, holes or other damage using material in a manner approved by primary air barrier material manufacturer.
- H. Inspect installation prior to enclosing assembly and repair damaged areas with closed cell, medium density spray polyurethane foam as recommended by manufacturer.
- I. Where applied to voids and gaps, assure space for expansion to avoid pressure on adjacent materials that may bind operable parts.
- J. Trim excess away for applied trim or remove as required for continuous sealant bead.

3.04 FIELD QUALITY CONTROL

- A. Insulation applicator shall perform the following tests:
 - 1. Adhesion
 - 2. Cohesion
 - 3. Thickness
 - 4. Density
- B. Insulation applicator shall complete daily inspection reports as required by ABAA using approved work record forms.

3.05 PROTECTION AND CLEANING

- A. Remove masking materials and over spray from adjacent areas immediately after foam surface has hardened. Ensure cleaning methods do not damage work performed by other sections.
- B. Do not permit subsequent construction work to disturb applied insulation.
- C. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction and acceptable to the primary material manufacturer.

END OF SECTION

SECTION 11 40 01

CUSTOM FABRICATED STAINLESS STEEL COUNTERTOP

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Custom fabricated stainless steel units, including:
 - 1. Stainless steel counters installed over casework as shown on drawing sheet A210.

1.02 RELATED REQUIREMENTS

A. Section 06 41 00 - Architectural Wood Casework: Base cabinets under stainless steel countertops.

1.03 REFERENCE STANDARDS

- A. ASTM A240/A240M Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications; 2016.
- B. ASTM A269/A269M Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service; 2015a.
- C. ASTM A270/A270M Standard Specification for Seamless and Welded Austenitic and Ferritic/Austenitic Stainless Steel Sanitary Tubing; 2015.
- D. ASTM A276/A276M Standard Specification for Stainless Steel Bars and Shapes; 2016a.
- E. ASTM A666 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.
- F. NSF 2 Food Equipment; 2014.
- G. SMACNA (KVS) Kitchen Ventilation Systems and Food Service Equipment Fabrication and Installation Guidelines; 2001.
- H. SMACNA (SRM) Seismic Restraint Manual Guidelines for Mechanical Systems; Sheet Metal and Air Conditioning Contractors' National Association; 2008.

1.04 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each manufactured product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Shop Drawings: Complete floor plans, elevations, cross-sections, and construction details for all fabricated units; include:
 - 1. Layout and anchorage of equipment and accessories, including clearances for maintenance and operation and required electrical or plumbing connections.
 - 2. Size, type, and location.
- C. Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

PART 2 PRODUCTS

2.01 MATERIALS

- Stainless Steel: 18-8 percent chromium-nickel composition, minimum; Type 302, 304, or 316; No. 4 -Brushed finish on exposed surfaces.
 - Sheets: ASTM A240/A240M or ASTM A666.
 - 2. Tubing: ASTM A269/A269M or ASTM A270/A270M; of true roundness with seams and welds ground smooth.
 - 3. Bars: ASTM A276/A276M.
- B. Sound Deadening Material: Bituminous paint or other water resistant mastic.
- C. Sealants: As specified in Section 07 92 00.

- D. Manufactured Components:
 - Finish Hardware: Manufacturer's standard; stainless steel with satin finish.
 - 2. Feet for Legs: Bullet shaped stainless steel; screwed into tubular legs with concealed screw threads; minimum 1 inch vertical adjustment.
- E. Bolts, Screws, and Rivets: Stainless steel; do not use on exposed surfaces unless specifically indicated or otherwise unavoidable.
 - 1. Bolt and Screw Caps: Provide lock washer and chromium-plated brass/bronze acorn nut to cap visible or exposed threads on inside of fixtures.
- F. Anchoring Devices: Stainless steel, of type appropriate for use; provide seismic anchorage as specified in SMACNA (KVS).

2.02 CUSTOM FABRICATED UNITS - GENERAL REQUIREMENTS

- See drawings for dimensions and configurations; ensure proper fit by taking field measurements prior to fabrication.
- B. Provide fully shop assembled units complying with SMACNA (KVS) and NSF 2, unless indicated otherwise; stainless steel components unless indicated otherwise.
 - 1. Where details are referenced as "SMACNA" details, refer to SMACNA (KVS).
 - 2. Stainless Steel Sheet: For surfaces up to 12 feet in length provide one continuous sheet without joints or welds, including back and end splashes.
 - 3. Joints: All joints welded unless specifically indicated or impossible; do not solder or braze stainless steel; do not use bolts, screws, or other fasteners on work surfaces, food contact surfaces, or wet surfaces.
 - 4. Sound Deadening: Apply sound deadening material to accessible internal surfaces of metal work and underside of metal counters and sinks.
- C. Counter: Stainless steel, 14 gage, 0.0747 inch thick, minimum; with underbracing as recommended by SMACNA (KVS), and bullnose edges.
- D. Counter Edges: Provide finished edge on all open sides; close open ends down to bottom edge of turn down; if not otherwise indicated provide bullnose edges.

2.03 FABRICATION

- A. Joints, Bends, and Edges: Make all joints close fitting, especially butt and contact joints.
 - 1. Make brake bends free of open-texture or orange peel appearance.
 - 2. Make sheared edges free of burrs, projections, and fins.
 - 3. Neatly finish mitered and bullnosed corners with under edge of material ground to uniform condition, without overlapping materials or cracks.
- B. Welding: Make all welded joints smooth, ductile, and watertight, without gaps, holes, or discoloration or marring of surface adjacent to welds.
 - 1. Use welding processes and filler metal compatible with material being welded. Do not use carbon arc welding on surfaces that will be exposed to view in finished work.
 - 2. Grind exposed welds flush with adjacent material; finish and polish to match adjacent surface. Avoid excessive heating of metal and metal discoloration. In grinding, use iron-free abrasives, wheels, and belts that have not been used on carbon-steel. Remove pits, runs, sputter, cracks, low spots, voids, buckles, and all other imperfections. Remove grain of rough grinding by several successively finer polishing until specified finish is attained.
 - 3. When welding sheet, penetrate entire thickness for entire length of joint; make joints flat, continuous and homogeneous with sheet metal without reliance on straps under seams, filling with solder, or spot welding.
 - 4. When stainless steel is joined to dissimilar materials, use stainless steel for fastening devices and welding material.
 - 5. Protection Against Corrosion: Eliminate possibility of corrosion wherever welding occurs on stainless steel. Minimize possibility of carbide precipitation in welding bolts and screws.
 - 6. When welding galvanized steel, thoroughly clean and repair damaged galvanizing and coat welds with polyurethane coating.
 - 7. Where bolts or screws are welded to underside of tops or trim, finish and undepress the exposed side of welds.
 - 8. Coat welds and discolorations that are not exposed to view in finished work with metallic-based paint to prevent the possibility of progressive corrosion of joints, unless welds are ground and polished smooth.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 INSTALLATION

- A. Install in accordance with fabricator's instructions and recommendations, plumb and level and in proper locations, ready for utility connections.
- Lay out work in advance to prevent damage to building; cut, fit, and patch where necessary; coordinate work with others.
- C. Do not cut or fit units in the field; if adjustments are necessary due to inadequate field measurement prior to fabrication, take unit back to shop and perform modifications there.
- D. Do not field weld unless absolutely necessary; weld and grind field joints in accordance with specified fabrication procedures.
- E. Securely anchor and attach non-mobile or adjustable-leg equipment to walls, floors, or bases with stainless steel bolts.
- F. Follow SMACNA (SRM) seismic restraint recommendations for project location.

3.03 CLEANING

A. Remove masking or protective covering from stainless steel and other finished surfaces.

3.04 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

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SECTION 23 82 16

DUCT COILS

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.
- B. The requirements of Section 23 05 00 apply to this Section.

1.02 SUBMITTALS

- A. Submit in accord with Section 01 30 00.
 - 1. Shop drawings and descriptive product data describing all material furnished under Part 2 of this Section.

PART 2: PRODUCTS

2.01 ELECTRIC DUCT COILS

- A. Based on product by Indeeco.
 - 1. Greenheck, Heatrex, Q-Mark and Reddi-Heat equals are acceptable.
- B. Coils shall be of model, type, size and capacity listed in schedule on Drawings.
- C. Heaters and panelboards (if required) shall meet the requirements of the National Electrical Code and shall be listed by Underwriters Laboratories for zero clearance to combustible surfaces and for use with heat pumps and air conditioning equipment.
- D. Heating elements shall be open coil, 80% nickel, 20% chromium, Grade A resistance wire. Type C alloys containing iron or other alloys are not acceptable. Coils shall be machine crimped into stainless steel terminals extending at least 1" into the airstream and all terminal hardware shall be stainless steel. Coils shall be supported by ceramic bushings staked into supporting brackets.
- E. Heater frames and terminal boxes shall be corrosion resistant steel. Unless otherwise indicated, the terminal box shall be NEMA 1 construction and shall be provided with a hinged, latching cover and multiple concentric knockouts for field wiring.
- F. All heaters shall be furnished with a disc type, automatic reset thermal cutout for primary over-temperature protection. All heaters shall also be furnished with disc type, load carrying manual reset thermal cutouts, factory wired in series with heater stages for secondary protection. Heat limiters or other fusible over-temperature devices are not acceptable.
- G. Heaters shall be rated for the voltage, phase, and number of heating stages indicated in the schedule. All three-phase heaters shall have equal, balanced, three-phase stages. All internal wiring shall be stranded copper with 105°C insulation and shall be terminated in crimped connectors or box lugs.
- H. Terminal blocks shall be provided for all field wiring and shall be sized for installation of 75°C copper wire rated in accordance with NEC requirements.
- I. See schedule on plans for additional options.

PART 3: EXECUTION

3.01 GENERAL

A. See schedules on plans for coil model, size and capacity.

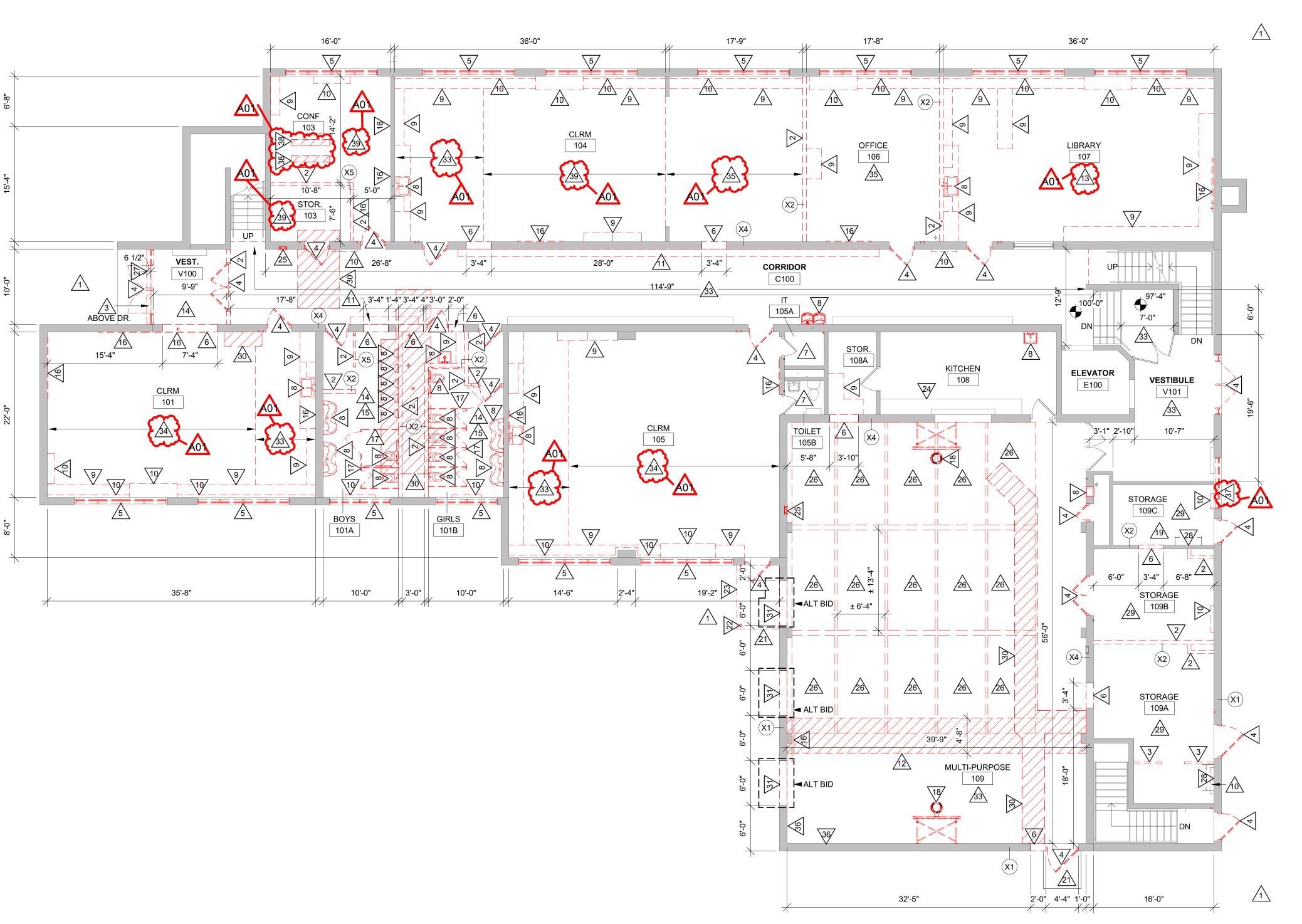
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3.02 ELECTRIC DUCT COILS

A. Install duct coil in a location that provides uniform airflow across face of coil. The heater's UL Listing requires that it not be installed closer than 4' downstream or upstream from a fan outlet, abrupt transition, or other obstructions. Elbows or turns must be located at least 4' from inlet of the heater and 2' from outlet of the heater.

END OF SECTION 23 82 16

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FIRST FLOOR REMOVAL PLAN

NOTE REGARDING SHEFFIELD TILE:

LAKEVIEW ELEMENTARY WAS CONSTRUCTED OF A SHEFFIELD TILE FLOOR AND ROOF SYSTEM. THIS SYSTEM WAS NEW AND EXPERIMENTAL AT THE TIME WITH SEVERAL SYSTEMS IN USE AT THE TIME. IT HAS PROVEN TO BE TROUBLESOME AS IT FAILS WITHOUT WARNING DUE TO DESIGN AND CONSTRUCTION ISSUES AND THE BRITTLENESS OF THE TILES. IT IS SENSITIVE TO OVER LOADING AND CORING. THE SYSTEM HAS NO REAL WAY TO SHARE LOADS AROUND OPENINGS LIKE TODAYS PRECAST PLANK HEADER SYSTEM, SO CHASES AND LARGER OPENINGS OFTEN REQUIRE LARGER STRUCTURAL FRAMED OPENINGS. THE FLOOR AND ROOF AT LAKEVIEW HAVE BEEN SURVEYED IN THE PAST AND NOTED DEFLECTION HAS OCCURRED IN SEVERAL ROOMS. THIS DEFLECTION HAS ENGAGED NORMALLY NON-STRUCTURAL WALL INTO A BEARING CONDITION.

THE DESIGN TEAM HAS ATTENDED TO MOST OPENINGS ANTICIPATED FOR FINAL CONSTRUCTION OF THE RENOVATION. IT IS RECOMMENDED THAT THE FLOORS ARE NOT USED FOR STORAGE OF MATERIALS. MEANS AND METHODS APPROACHES TO CORING, LOADING AND TEMPORARY CONSTRUCTION SHOULD BE REVIEWED BY THE CONTRACTOR AND THEIR TEAM TO ASSURE THE SAFETY OF PERSONNEL AND THE STABILITY OF THE STRUCTURE.

REMOVAL GENERAL NOTES: A ALL STRUCTURES SHOWN DASHED ON THIS PLAN SHALL BE COMPLETELY REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR UNLESS OTHERWISE NOTED. REFERENCE MEP SHEETS FOR ALL EQUIPMENT REMOVALS AND MODIFICATIONS. TIME AND METHODS SHALL BE COORDINATED WITH AND AGREED TO BY THE OWNER AND ARCHITECT. THIS SHALL INCLUDE ALL ELECTRICAL. MECHANICAL OR PLUMBING WITHIN THE REMOVED STRUCTURE. TERMINATE AND CAP MEP AS REQUIRED. DO NOT ABANDON IN PLACE UNUSED CONDUIT, PIPE, ETC. REMOVE COMPLETELY. VERIFY GENERAL CONDITIONS IN FIELD PRIOR TO BIDDING.

PREPARATION FOR NEW FINISHES SHALL INCLUDE BUT NOT LIMITED TO REMOVAL OF EXISTING FINISHES, REMOVAL OF TAPES, GLUES (MASTIC), NAILS, ETC. PATCHING OF HOLES AND CRACKS TO PROVIDE AN ACCEPTABLE SURFACE FOR NEW FINISH INSTALLATION. PATCH CMU AT REMOVED CLOCKS.

OWNER WILL REMOVE LOOSE FURNISHINGS AND EQUIPMENT FROM THE WORK AREA PRIOR TO START OF CONSTRUCTION.

ETC. AS REQUIRED FOR THE WORK.

MAINTAIN ALL EXIT DOORS AND CORRIDORS IN UNOBSTRUCTED OPERABLE CONDITION WITH SAFE PASSAGE AWAY FROM THE BUILDING. COORDINATE WITH LOCAL FIRE MARSHAL AS REQUIRED.

ROOM NUMBERS ARE SHOWN ON THIS PLAN FOR INFORMATIONAL AND COORDINATE PURPOSES ONLY.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING, BRACING,

COORDINATE REMOVAL AND PATCHING WITH MEP DRAWINGS. PATCH TO MATCH EXISTING ADJACENT CONDITIONS.

H PROVIDE FLOOR PROTECTION AS SPECIFIED.

ACCOUSTIC SPRAY CEILING TO BE ABBATED UNDER SEPERATE

K CONTRACTOR SHALL REMOVE ALL EXISTING INTERIOR ROOM SIGNAGE.

REMOVAL PLAN LEGEND:

SYMBOL INDICATES CONSTRUCTION NOTE THIS SHEET --- REMOVE ITEMS NOTED WITH DASHED LINES

SYMBOL INDICATES REMOVAL OF DOOR AND FRAME



SYMBOL INDICATES REMOVAL CONCRETE SLAB - SEE

UNLESS NOTED OTHERWISE

KEY NOTES REMOVAL

ELETRICAL / PLUMBING / STRUCTURAL SHEETS.

REMOVE EXISTING WALL (CMU/BRICK). PATCH WITH FLOORING/ LEVELER/ PATCHING TO RECEIVE NEW FLOORING. REMOVE EXISTING WALL (FRAME). PATCH WITH FLOORING/ LEVELER/ PATCHING TO RECEIVE NEW FLOORING.

SEE CIVIL SHEETS FOR SITE REMOVAL REQUIREMENTS.

EXISTING REMOVAL OF DOOR & FRAME N.I.C. (BY ABATEMENT CONTRACTOR) REMOVE IN-FILL PANEL FROM EXISTING WINDOW. EXISTING FRAME, GLASS AND SILLS TO REMAIN. SEE WDO ELEVATIONS ON A601. CREATE NEW OPENING IN EXISTING CMU WALL. TOOTH IN NEW MASONRY AT JAMBS.

REMOVE EXISTING CEILING. REMOVE EXISTING PLUMBING FIXTURE - SEE PLUMBING SHEETS. REMOVE EXISTING CASEWORK & BASE. PATCH WITH FLOORING/ LEVELER/ PATCHING TO RECEIVE NEW FLOORING.

REMOVE EXISTING MECHANICAL EQUIPMENT - SEE MECHANICAL SHEETS. PATCH WITH FLOORING/ LEVELER/ PATCHING TO RECEIVE

NEW FLOORING. REMOVE EXISTING CONCRETE LOCKER BASE, PATCH WITH FLOORING/ LEVELER/ PATCHING TO RECEIVE NEW FLOORING REMOVE EXISTING SLAB-ON-GRADE AS REQUIRED FOR STRUCTURAL

WORK - SEE STRUCUTRAL SHEETS. VCT FLOORING ADHESIVE

REMOVE EXISTING TILE WALL COVERING REMOVE EXISTING SMARTBOARD, WHITEBOARD OR BULLETIN BOARD. REMOVE EXISTING TOILET PARTITIONS.

REMOVE EXISTING BASKETBALL HOOP & SUPPORT STRUCTURE. REMOVE EXISTING TILE BASE. REMOVE EXISTING WOOD PLATFORM & SUPPORT STRUCTURE. REMOVE EXISTING FROST STOOP AND CONCRETE SLAB. REMOVE EXISTING COLUMN.

REMOVE EXISTING ROOF/CANOPY SYSTEM. EXISTING CASEWORK TO REMAIN. REMOVE EXISTING FIRE EXTINGISHER / FIRE EXTINGISHER CABINET REMOVE EXISTING ACOUSTIC CEILING TILES FROM UNDERSIDE OF

ROOF STRUCTURE BETWEEN BEAMS/PURLINS. REMOVE PORTION OF EXISTING SLAB FOR NEW FROST WALL CONNECTION - SEE 9A500 FOR DETAIL. REMOVE EXISTING PAINT FROM WALL TO PREPARE SURFACE FOR NEW

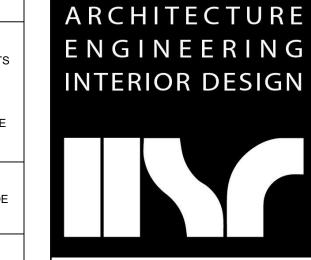
MECHANICALLY REMOVE EXISTING PAINT FROM FLOOR TO PREPARE SURFACE FOR NEW FLOOR FINISH. REMOVE SLAB-ON-GRADE AS REQUIRED FOR PLUMBING WORK - SEE PLUMBING SHEETS. VCT FLOORING ADHESIVE ABETMENT N.I.C. (BY ALT BID - CREATE NEW OPENING IN EXISTING CMU WALL. SALVAGE FACE BRICK. TOOTH IN NEW MASONRY AT JAMBS.

EXISTING VCT FLOORING TO REMAIN. NEW FLOORING SURFACE APPLIED OVER.

EXISTING CARPET REMOVAL N.I.C. (BY ABATEMENT CONTRACTOR). EXISTING VCT FLOORING UNDER CARPET TO REMAIN WITH NEW FLOORING SURFACE APPLIED OVER. EXISTING VCT FLOORING REMOVAL N.I.C. (BY ABATEMENT

CONTRACTOR) REMOVE EXISTING CLIMBING WALL PANELS.
REMOVE EXISTING WINDOW AND SILL. N.I.C. (BY ABATEMENT CONTRACTOR) PREP FOR WALL INFILL.

REMOVE SLAB-ON-GRADE AS REQUIRED FOR ELECTRICAL WORK - SEI ELECTRICAL SHEETS. REMOVE EXISTING CARPET. EXISTING VCT FLOORING UNDER CARPET TO REMAIN WITH NEW FLOORING SURFACE APPLIED OVER.



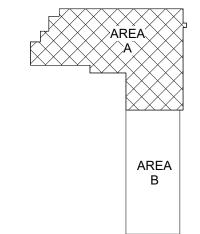
HSR ASSOCIATES INC. 100 MILWAUKEE STREET

LA CROSSE, WISCONSIN PHONE: 608.784.1830 FAX: 608.782.5844

www.hsrassociates.com Consultant:

HSR Project Number:

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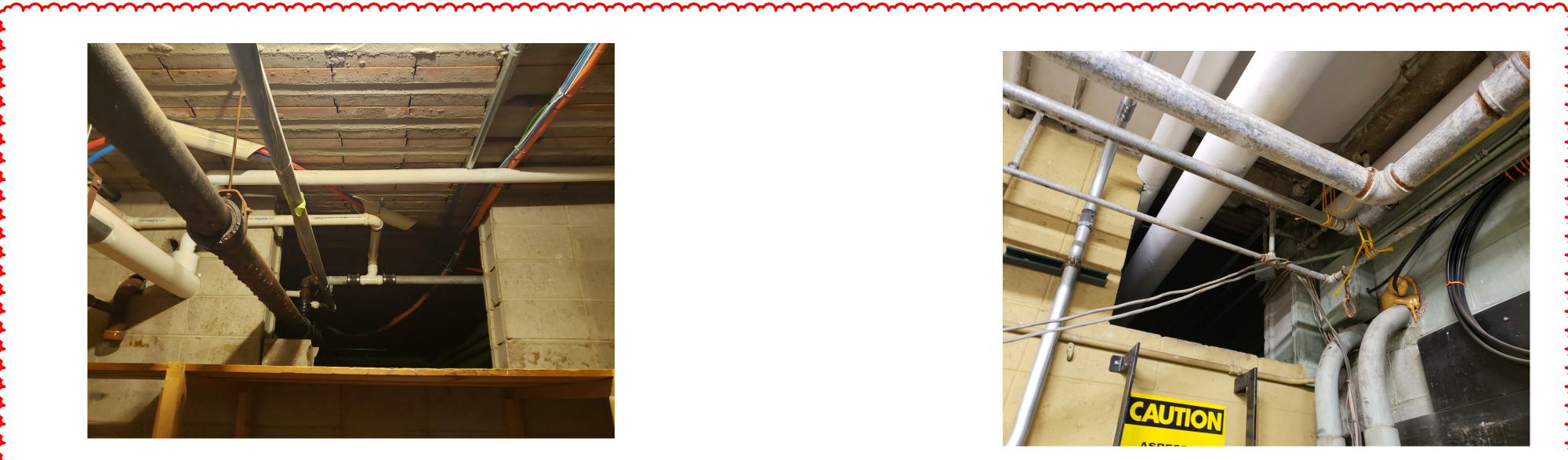


KEY PLAN

BID DOCUMENTS

A01 ADDENDUM 1

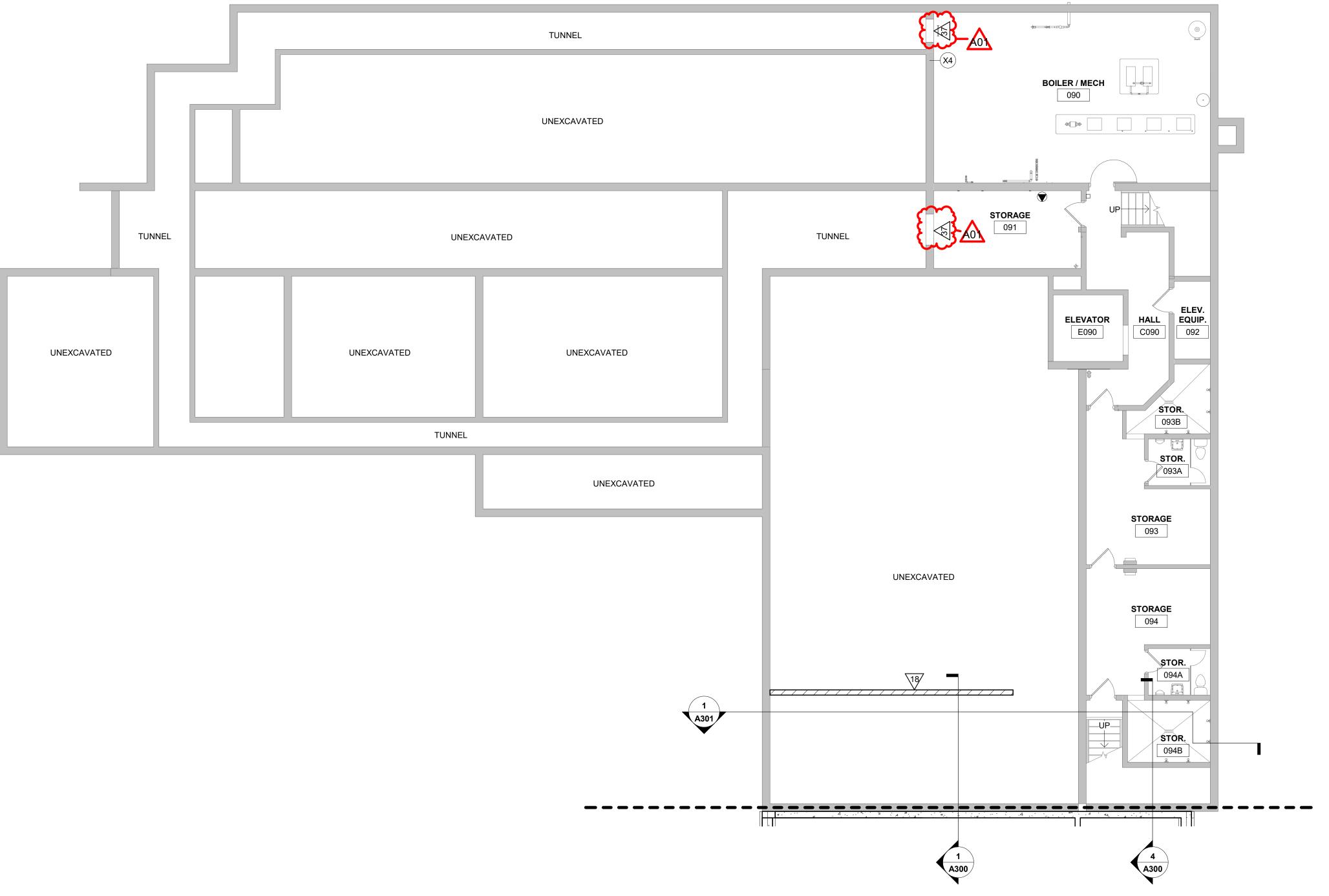
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SITE PHOTO



BASEMENT REMODEL PLAN

GENERAL NOTES:

A SEE ID SHEETS FOR FLOOR / WALL FINISH LAYOUTS AND PAINT SCOPE. LOOSE FURNISHINGS EXCEPT AS NOTED SHALL BE PROVIDED AND INSTALLED BY THE OWNER.

VERIFY EXACT SIZE AND LOCATION OF ALL MECHANICAL / PLUMB AND ELEC. OPENINGS - GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FINISH AT ALL VISIBLE AREAS. ALL OPENING SHALL BE SEALED AFTER UTILITY INSTALLATION. PAINT ALL EXPOSED STEEL LINTELS.

INSTALL BULLNOSE CMU AT ALL OUTSIDE CORNERS W/O TILE AND AT DOOR JAMBS AS DETAILED. NO BULLNOSE AT WINDOW JAMBS.

F SEE STRUCTURAL FOR SLAB CONTROL JOINTS.

SEE A502 FOR WALL CONTROL JOINT DETAILS. SEE PLANS AND ELEVATIONS FOR CJ LOCATIONS. CJ = CONTROL JOINTS

EXTEND ALL WALLS TO DECK UNLESS NOTED OTHERWISE. SEE **A502** FOR TOP OF WALL DETAILS. SEE **A501** FOR TYPICAL HEAD FLASHING AND THROUGH-WALL FLASHING ISOMETRIC DETAILS.

GEN. CONTRACTOR TO PROVIDE CONC. EQUIP. PADS/CURBS AS REQUIRED FOR MECH/ELECTRICAL EQUIP. - VERIFY SIZE/PROFILE/LOCATION WITH MECH/ELECTRICAL.

LEGEND:

SYMBOL INDICATES WALL TYPE - SEE SHEET A600 FOR WALL TYPE DETAILS.

SYMBOL INDICATES WINDOW TYPE. SEE SHEET A601 FOR WINDOW FRAME ELEVATIONS.

SYMBOL INDICATES CONSTRUCTION NOTE THIS SHEET

METAL GRATE FLOOR - SEE STRUCTURAL SHEETS.

ALT-BID: RADIANT IN-FLOOR HEAT & INSULATION - SEE MECHANICAL / STRUCTURAL SHEETS.

CONCRETE IN-FILL PATCH - SEE ELECTRICAL / PLUMBING / STRUCTURAL SHEETS.

KEY NOTES PLAN INSTALL NEW CONCRETE FROST STOOP - SEE STRUCTURAL SHEETS. INSTALL NEW CONCRETE SLAB-ON-GRADE - SEE STRUCUTAL SHEETS. INSTALL NEW COLUMN. PAINT COLUMN @ EXTERIOR - SEE STRUCTURAL

INSTALL NEW CASEWORK - SEE A210 FOR CASEWORK ELEVATIONS. INSTALL NEW FLOORING & BASE - SEE ID SHEETS. INSTALL NEW PLUMBING FIXTURE - SEE PLUMBING SHEETS. WASHER / DRYER (N.I.C.) - HOOK-UPS BY G.C. - SEE ELECTRICAL & PLUMBING SHEETS. ALT BID - INSTALL NEW SOLID SURFACE WINDOW STOOL - SEE ID INSTALL NEW BOLLARD - SEE 1A501. INSTALL NEW TRENCH DRAIN - SEE PLUMBING & STRUCUTRAL SHEETS.

INSTALL NEW LOCKER W/ INTREGAL BENCH & BUILT-IN OUTLET - SEE ELECTRICAL SHEETS. NOT USED. INSTALL NEW CAR WASH CURTAIN. DOG KENNEL - N.I.C.

BIKE RACKING - N.I.C. MECHANICAL EQUIPMENT - SEE MECHANICAL SHEETS. INSTALL NEW EVIDENCE LOCKER.

THICKENED SLAB/FOOTING - SEE STRUCTURAL SHEETS. INSTALL EXISTING TRANSACTION WINDOW GLAZING PROVIDED BY OWNER. FIELD VERIFY SIZE.

FUME HOOD BY OWNER - N.I.C. EXISTING CASEWORK TO REMAIN. INSTALL NEW METAL GRATE FLOOR - SEE STRUCTURAL SHEETS.

INSTALL NEW LADDER. INSTALL NEW 1 1/4" (1.66" O.D.) STEEL PIPE GUARDRAIL - PAINT. PLACE VERTICAL POSTS @ 4'-0" O.C. MAX. INSTALL EXISTING PASS-THROUGH LOCKERS & TRIM PROVIDED BY OWNER. ROUGH OPENING TO BE VERIFIED IN FIELD.

CAP EXISTING LOUVER OPENING WITH SHEET METAL ON INTERIOR TO MAKE WATER TIGHT. LOUVER ON EXTERIOR TO STAY AS IS. SPRAY FOAM OVER NEW SHEET METAL CAP WITH NEW WALL TYPE D2a. FIELD PATCH CONCRETE SLAB TO MATCH ADJACENT SLAB CONSTRUCTION & FINISH - SEE STRUCTURAL SHEETS.

INSTALL NEW 8" THICK WITH REINFORCING CONCRETE EQUIPMENT PAD - SEE MECHANICAL SHEETS. FURNITURE - N.I.C. APPLY REACTIVE HARDENER / SEALER TO CONCRETE FLOOR.

PATCH CONCRETE SLAB TO MATCH ADJACENT SLAB CONSTRUCTION & FINISH - SEE PLUMBING SHEETS. INSTALL WALL TYPE D4 @ PERIMETER OF EXISTING CONCRETE LOCKER

INSTALL NEW DOOR OPERATOR ACTUATOR. PREP, PRIME & PAINT EXISTING EXTERIOR HANDRAIL.

2/3A100 FOR REFERENCE.

PATCH CONCRETE SLAB TO MATCH ADJACENT SLAB CONSTRUCTION & FINISH - SEE ELECTRICAL SHEETS.

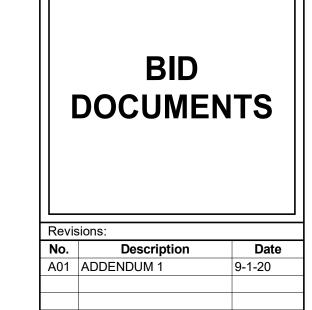
ENCLOSE EXISTING OPENING W/ FIRE TREATED BLOCKING @ PERIMTER AND FACED W/ FIRE TREATED PLYWOOD. FILL ANNULAR SPACE AROUND PIPES W/ FIBERGLASS INSULATION. ANNULAR SPACING MAX: 1/2". SEE

ARCHITECTURE ENGINEERING INTERIOR DESIGN

HSR ASSOCIATES INC. 100 MILWAUKEE STREET LA CROSSE, WISCONSIN PHONE: 608.784.1830 FAX: 608.782.5844

www.hsrassociates.com Consultant:

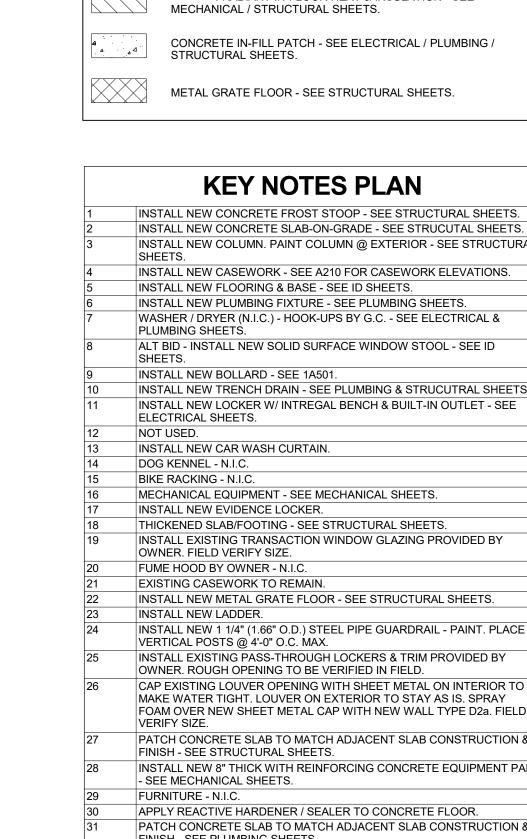




KEY PLAN

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EQUIPME	ENT SCHEDULE		OWNER FURNISHED OR RELOCATED (SEE REMOVAL)	CONTR. FURNISHED	OWNER INSTALLED	CONTR. INSTALLED
ABBREVIATION	ITEM	STD. MOUNTING HEIGHT	S S	8	ò	8
МВН	MOP AND BROOM HOLDER	TOP @ 5'-0" A.F.F		Х		Х
Р	CEILING MOUNTED PROJECTOR	COORDINATE W/OWNER		Х		х
PS	96" MOTORIZED WALL MOUNTED PROJECTION SCREEN	COORDINATE W/OWNER		Х		Х
STV	SMART TELEVISION (SIZE BY OWNER)	COORDINATE W/OWNER	Х			Х
WB1	60"X48" WHITE BOARD	TOP @ 6'-10" A.F.F.		Х		Х
WB2	96"X48" WHITE BOARD	TOP @ 6'-10" A.F.F.		Х		Х
ws	WINDOW SHADE (SEE ID SHEETS)	SEE ID SHEETS		Х		Х
EQUIPMENT SCHE	DULE GENERAL NOTES:					
	EXACT LOCATION OF EACH ITEM WITH OF FOR ACCESSORIES SCHEDULE.	OWNER PRIOR TO INSTALLATION	٧.			



NOT USED.

2/3A100 FOR REFERENCE.

ARCHITECTURE **GENERAL NOTES:** A SEE ID SHEETS FOR FLOOR / WALL FINISH LAYOUTS AND PAINT SCOPE. LOOSE FURNISHINGS EXCEPT AS NOTED SHALL BE PROVIDED AND INTERIOR DESIGN INSTALLED BY THE OWNER. VERIFY EXACT SIZE AND LOCATION OF ALL MECHANICAL / PLUMB AND ELEC. OPENINGS - GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FINISH AT ALL VISIBLE AREAS. ALL OPENING SHALL BE SEALED AFTER UTILITY INSTALLATION. D PAINT ALL EXPOSED STEEL LINTELS. INSTALL BULLNOSE CMU AT ALL OUTSIDE CORNERS W/O TILE AND AT DOOR JAMBS AS DETAILED. NO BULLNOSE AT WINDOW JAMBS. SEE STRUCTURAL FOR SLAB CONTROL JOINTS. SEE **A502** FOR WALL CONTROL JOINT DETAILS. SEE PLANS AND ELEVATIONS FOR CJ LOCATIONS. CJ = CONTROL JOINTS HSR ASSOCIATES INC. EXTEND ALL WALLS TO DECK UNLESS NOTED OTHERWISE. SEE **A502** FOR TOP OF WALL DETAILS. SEE **A501** FOR TYPICAL HEAD FLASHING AND THROUGH-WALL FLASHING ISOMETRIC DETAILS.

LEGEND:

MECH/ELECTRICAL.

SYMBOL INDICATES WALL TYPE - SEE SHEET A600 FOR WALL TYPE DETAILS. SYMBOL INDICATES WINDOW TYPE. SEE SHEET A601 FOR WINDOW FRAME ELEVATIONS. SYMBOL INDICATES CONSTRUCTION NOTE THIS SHEET ALT-BID: RADIANT IN-FLOOR HEAT & INSULATION - SEE

GEN. CONTRACTOR TO PROVIDE CONC. EQUIP. PADS/CURBS AS REQUIRED FOR MECH/ELECTRICAL EQUIP. - VERIFY SIZE/PROFILE/LOCATION WITH

METAL GRATE FLOOR - SEE STRUCTURAL SHEETS.

KEY NOTES PLAN

INSTALL NEW CONCRETE SLAB-ON-GRADE - SEE STRUCUTAL SHEETS. INSTALL NEW COLUMN. PAINT COLUMN @ EXTERIOR - SEE STRUCTURAL INSTALL NEW CASEWORK - SEE A210 FOR CASEWORK ELEVATIONS. INSTALL NEW FLOORING & BASE - SEE ID SHEETS. INSTALL NEW PLUMBING FIXTURE - SEE PLUMBING SHEETS. WASHER / DRYER (N.I.C.) - HOOK-UPS BY G.C. - SEE ELECTRICAL & ALT BID - INSTALL NEW SOLID SURFACE WINDOW STOOL - SEE ID INSTALL NEW BOLLARD - SEE 1A501. INSTALL NEW TRENCH DRAIN - SEE PLUMBING & STRUCUTRAL SHEETS. INSTALL NEW LOCKER W/ INTREGAL BENCH & BUILT-IN OUTLET - SEE ELECTRICAL SHEETS. INSTALL NEW CAR WASH CURTAIN. BIKE RACKING - N.I.C. MECHANICAL EQUIPMENT - SEE MECHANICAL SHEETS. INSTALL NEW EVIDENCE LOCKER. THICKENED SLAB/FOOTING - SEE STRUCTURAL SHEETS. INSTALL EXISTING TRANSACTION WINDOW GLAZING PROVIDED BY OWNER. FIELD VERIFY SIZE. FUME HOOD BY OWNER - N.I.C. EXISTING CASEWORK TO REMAIN. INSTALL NEW METAL GRATE FLOOR - SEE STRUCTURAL SHEETS. INSTALL NEW LADDER. INSTALL NEW 1 1/4" (1.66" O.D.) STEEL PIPE GUARDRAIL - PAINT. PLACE VERTICAL POSTS @ 4'-0" O.C. MAX. INSTALL EXISTING PASS-THROUGH LOCKERS & TRIM PROVIDED BY OWNER. ROUGH OPENING TO BE VERIFIED IN FIELD. CAP EXISTING LOUVER OPENING WITH SHEET METAL ON INTERIOR TO MAKE WATER TIGHT. LOUVER ON EXTERIOR TO STAY AS IS. SPRAY FOAM OVER NEW SHEET METAL CAP WITH NEW WALL TYPE D2a. FIELD VERIFY SIZE.

PATCH CONCRETE SLAB TO MATCH ADJACENT SLAB CONSTRUCTION & FINISH - SEE STRUCTURAL SHEETS. INSTALL NEW 8" THICK WITH REINFORCING CONCRETE EQUIPMENT PAD - SEE MECHANICAL SHEETS. APPLY REACTIVE HARDENER / SEALER TO CONCRETE FLOOR. PATCH CONCRETE SLAB TO MATCH ADJACENT SLAB CONSTRUCTION & FINISH - SEE PLUMBING SHEETS.

INSTALL NEW DOOR OPERATOR ACTUATOR. PREP. PRIME & PAINT EXISTING EXTERIOR HANDRAIL.

PATCH CONCRETE SLAB TO MATCH ADJACENT SLAB CONSTRUCTION & AND FACED W/ FIRE TREATED PLYWOOD. FILL ANNULAR SPACE AROUND PIPES W/ FIBERGLASS INSULATION. ANNULAR SPACING MAX: 1/2". SEE

INSTALL WALL TYPE D4 @ PERIMETER OF EXISTING CONCRETE LOCKER

HSR Project Number: Project Date: 8.20.2020 Drawn By: Key Plan: KEY PLAN

100 MILWAUKEE STREET

LA CROSSE, WISCONSIN

PHONE: 608.784.1830

FAX: 608.782.5844

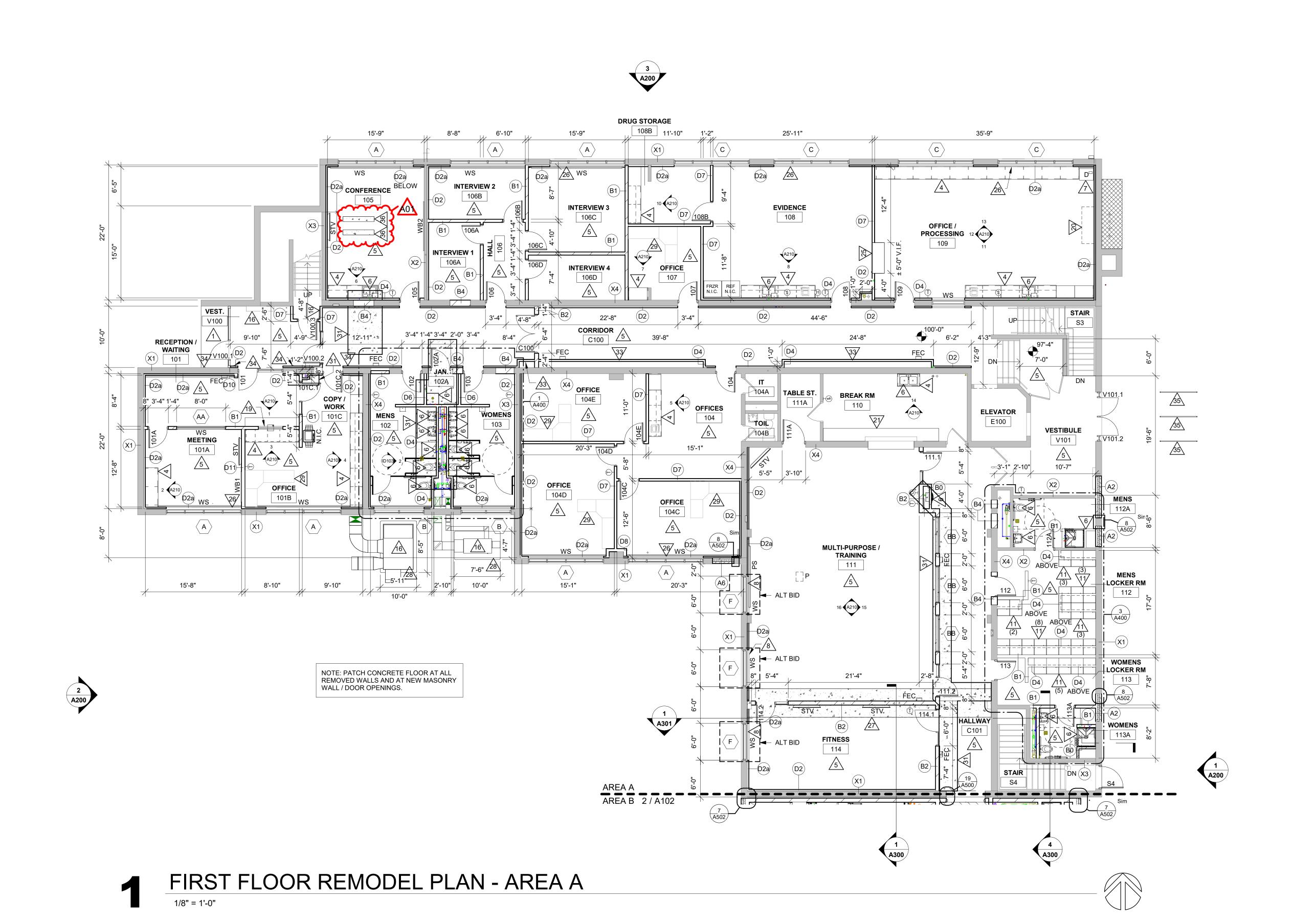
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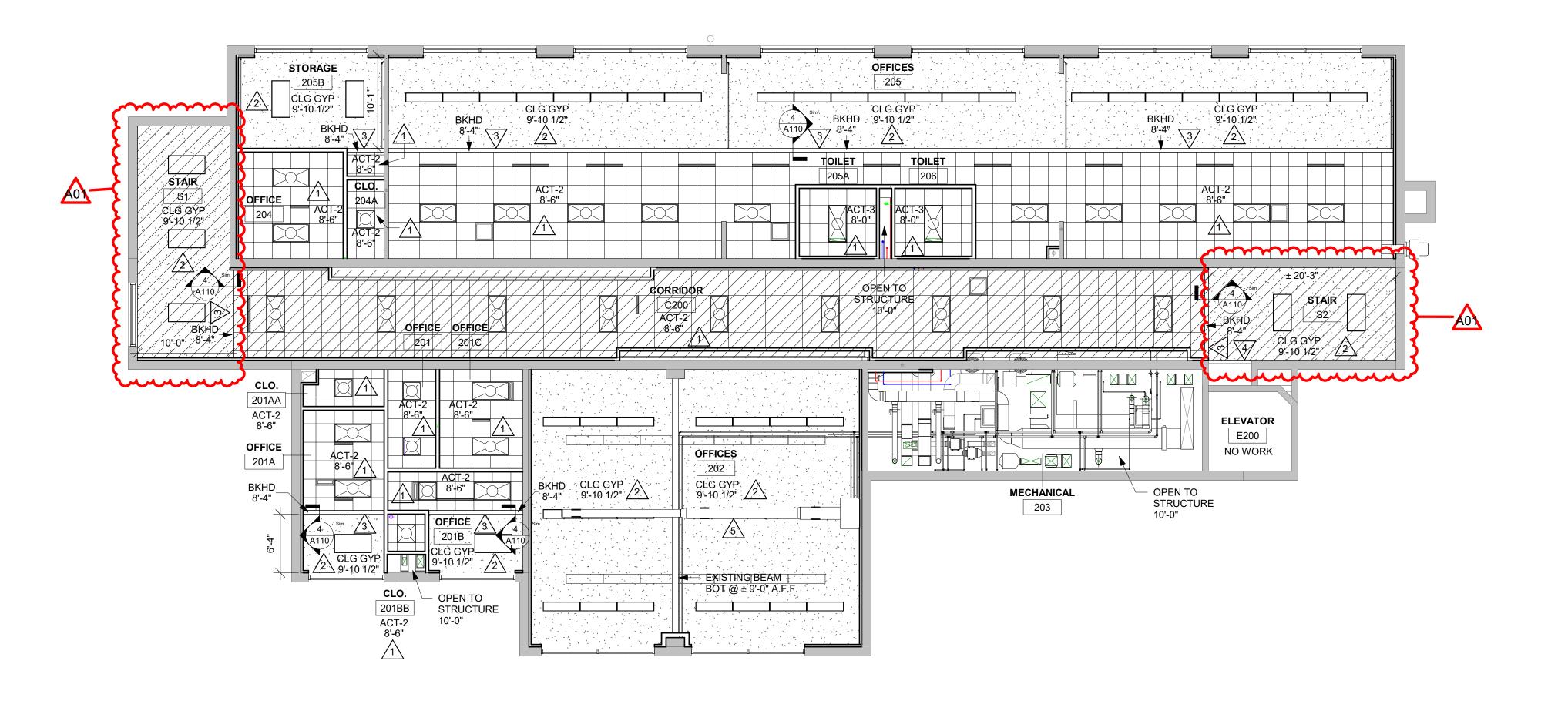
Consultant:

BID DOCUMENTS

A01 ADDENDUM 1

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SECOND FLOOR RCP AREA A



GENERAL NOTES:

A SEE MECHANICAL FOR CEILING GRILLE INFORMATION

B SEE ELECTRICAL FOR LIGHTING TYPES

ALL INTERIOR PARTITIONS TO EXTEND TO BOTTOM OF DECK UNLESS OTHERWISE NOTED. CLOSE DECK FLUTES AT TOP OF WALL WITH NEOPRENE FILLER OR MINERAL FIBER INSERTS. AT GYP/STUD PARTITIONS SEE SPECIFICATION FOR LEVEL OF FINISH ABOVE FINISHED CEILING.

ALL REMAINING ANNULAR SPACE AROUND ITEMS PENETRATING WALLS SHALL BE NEATLY SEALED.

WHERE NO CEILING/EXPOSED STRUCTURE UNLESS NOTED OTHERWISE, CONTRACTOR SHALL KEEP ALL MEP ABOVE OR EVEN WITH THE LEVEL OF THE LIGHTS. MEP SHALL RUN IN NEAT ORDERLY APPEARANCE GENERALLY PARALLEL OR PERPENDICULAR TO FINISHED STRUCTURE. WALLS IN THESE ROOMS TO RUN TO DECK AND ALL STRUCTURE / MEP COMPONENTS ARE TO BE PAINTED.

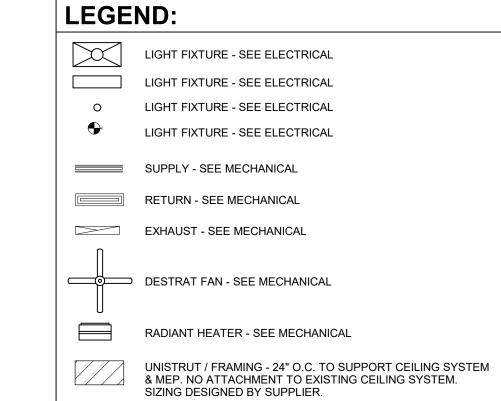
ALL EXTERIOR EXPOSED STEEL LINTELS/HEADERS SHALL BE GALVANIZED, PRIMED AND PAINTED UNLESS NOTED OTHERWISE. REFER TO INTERIOR DESIGN SHEETS FOR OTHER FINISHES

HANGERS AND SUPPORTS: MECHANICAL, PLUMBING, ELECTRICAL AND OTHER CABLING CONTRACTORS SHALL NOT HANG OR SUPPORT THE WORK FROM THE ROOF DECK IN ANY FASHION. CONDUIT RUNS SHALL NOT BE LAID ON ROOF DECK NOR LAID ON THE STRUCTURAL SUPPORT THAT SUPPORTS THE ROOF DECK. NO FASTENERS SHALL PENETRATE ROOF DECK BY ANY TRADE OTHER THAN THE ROOFING CONTRACTOR FOR THE NEW ROOF SYSTEM.

CONFIRM EXACT LOCATION OF OVERHEAD PROJECTORS AND OTHER CEILING MOUNTED EQUIPMENT WITH OWNER / MANUFACTURER PRIOR TO INSTALLATION. SEE EQUIPMENT PLANS FOR ADDITIONAL EQUIPMENT. CEILING TYPES INSTALLED AS NOTED ON PLANS. SEE SPECIFICATIONS FOR ADDITIONAL SYSTEM INFORMATION.

ACT-2=TEGULAR EDGE, ACT-3=VINYL FACED GYP, BKHD = GYP BD

BULKHEAD, **CLG GYP** = GYP BD OVER METAL CHANNEL/STUD, **MS** = METAL SOFFIT



KEY NOTES RCP

- INSTALL NEW 2' X 2' ACT CEILING. INSTALL NEW GYP. GB. CEILING. PAINT
- INSTALL NEW GYP. BD. BULKHEAD. PAINT EXISTING BULKHEAD TO REMAIN.
- MECHANICAL DUCTWORK (PAINT) SEE MECHANICAL SHEETS. EXISTING GLUE-LAM BEAM TO REMAIN. PAINT (PNT-5) EXISTING PURLINS TO REMAIN. PAINT (PNT-6)
- REPAIR PLASTER/STUCCO SOFFIT PAINT.
- PAINT EXPOSED METAL DECK, MEP AND ALL EXPOSED STRUCTURE INSTALL NEW CAR WASH CURTAIN.
- INSTALL NEW METAL SOFFIT.

 OVERHEAD DOOR TRACK.
- 14 UNISTRUT FOR WASH BAY CURTAIN / TRACK. SPACING 4'-0" MAX O.C

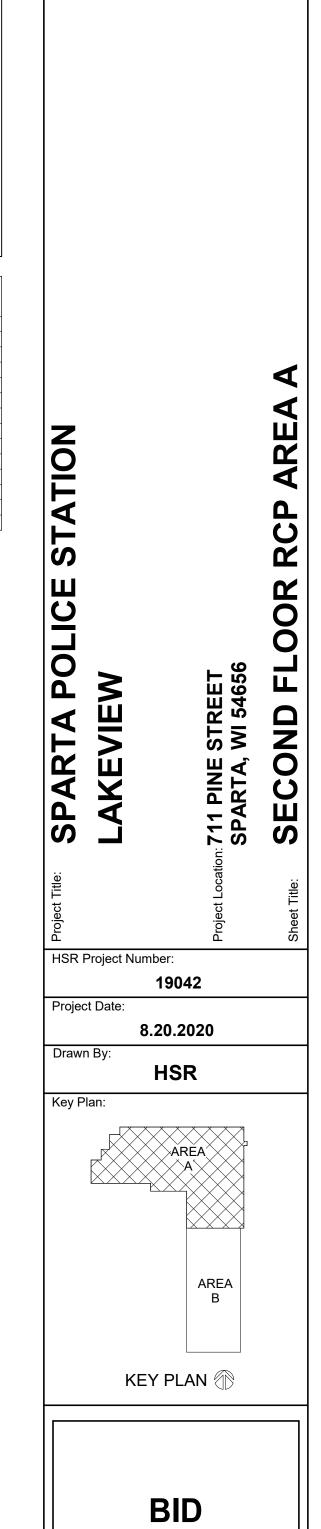




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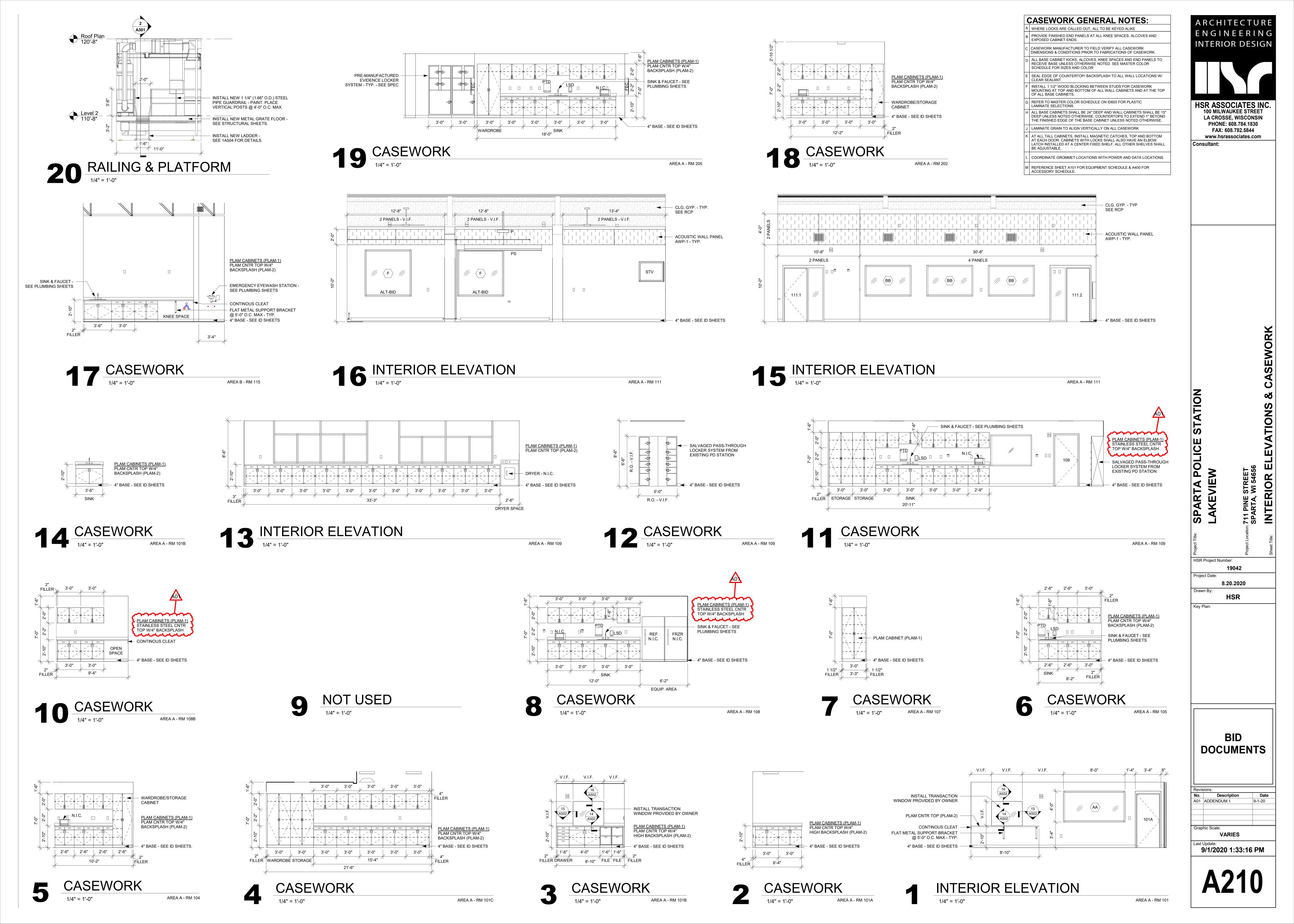
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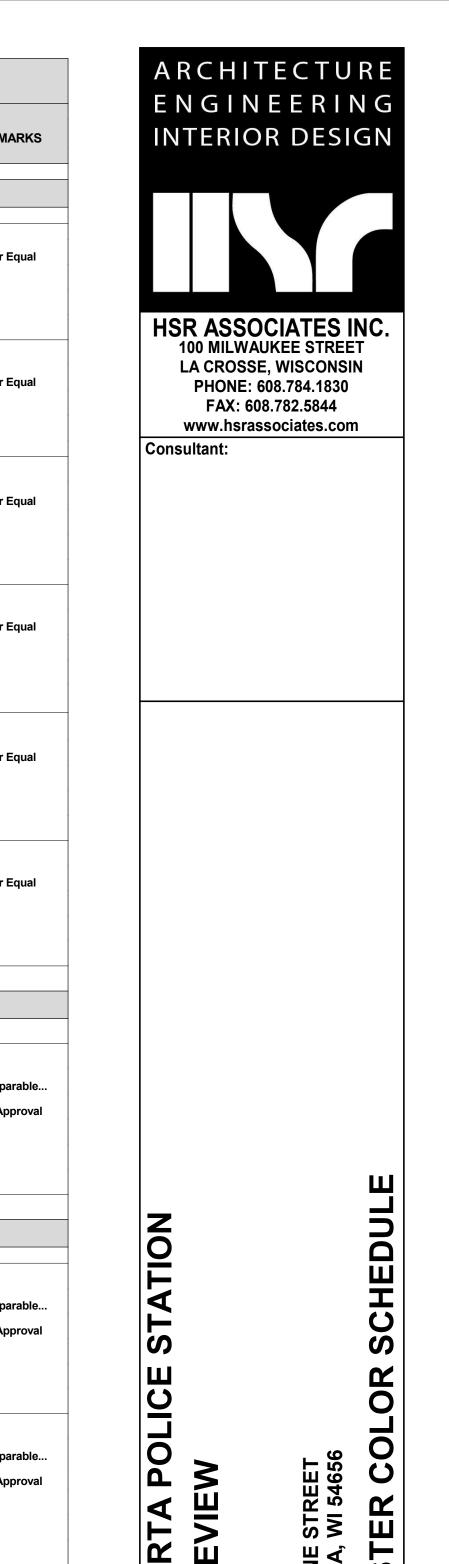
DOCUMENTS

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A01 ADDENDUM 1



					MASTER C	COLOR SCHEDUL	_E					
MANUF	ACTURER / COLOR	GENERAL LOCATION	REMARKS	MANUFACTURE	ER / COLOR		GENERAL LOCATION	REMARKS	MANUFA	CTURER / COLOR	GENERAL LOCATION	REMARKS
06 41 00 CUSTOM CABINETS				09 65 00 RESILIENT FLOORING/BASE					09 90 00 PAINTS AND COATINGS			
PLAM-1 (Plastic	<u>Manufacturer:</u> Formica <u>Color:</u> Neutral Twill	Casework	Comparable Products Prior Approval	LVT-1 (Luxury Vinyl Tile)		Mohawk Group Hot & Heavy - Secoya		Comparable Products Prior Approval	PNT-1 (Paint)	Manufacturer: Benjamin Moore Color: Bone Black	Field Paint	*Or Equal
Laminate)	Finish: Matte Finish		, no. , pp. c.a.	(_watery villy)	Color:	Atwell Mill 9"x59" 5mm		, 11017 pp. 010.	(i amily	Color Code: CW-715	Epoxy paint in restrooms	
PLAM-2	Manufacturer: Pionite Color: Meteoric Metallo Finish: Textured/Suede	Countertops	Comparable Products Prior Approval			20 mil Staggered	Herringbone in Mulipurpose		PNT-2	Manufacturer: PPG Color: Admiralty Color Code: 1042-7	Accent Paint	*Or Equal
06 61 00 SIMULATED STONE				VWB-1 (Vinyl	Manufacturer:	Johnsonite		Comparable Products Prior Approval	PNT-3	Manufacturer: Sherwin Williams	Hollow Metal Window and Door	*Or Equal
OU OT OU SIMIOLATED STORE				Wall Base)	Size: Color:	Charcoal 20		Prior Approvai	FNI-3	Color Code: 7674	Hollow Metal Willdow and Door	Or Equal
SS-1 (Solid Surface) 09 30 00 TILE	Manufacturer: Staron Color: Reno	Window Sills	Comparable Products Prior Approval	VCE-1 (Vinyl Carpet Edge)	Manufacturer: Product: Color:	Varies by location, see ID Peppercorn		Comparable Products Prior Approval	PNT-4	Manufacturer: Sherwin Williams Color: High Reflective White Color Code: 7757	Ceilings	*Or Equal
				09 65 66 RESILIENT ATHLETIC FLOORING								
TLE-1 (Tile)	Manufacturer: Ceramic Tileworks Product: Epoque Color: Brown	Restroom Floor Tile Tile Base	Comparable Products Prior Approval	RAF-1 (Resilient Athletic	Manufacturer: Collection:	Ecore Beast	Fitness 114	Comparable Products Prior Approval	PNT-5	Manufacturer: Sherwin Williams Color: As Selected by A/E Color Code:	Multipurpose Clg Beams	*Or Equal
	Size: 5"x9" Installation: See ID103			Flooring)	Color: Size:	Roll Grippin Gray 20 (ES46) 48"x 25' 10.5mm (2.5mm + 8mm)			PNT-6	Manufacturer: Sherwin Williams Color: As Selected by A/E Color Code:	Multipurpose Clg Purlins	*Or Equal
TLE-2	Manufacturer: VirginiaTile Product: Crossville - Notorious Color: Femme Fatale	Restroom Wall Tile	Comparable Products Prior Approval	09 68 50 CARPETING	THICKNESS.	10.5Hill (2.5Hill + 6Hill)			10 21 13 TOILET COMPARTMENTS	Color Code.		
	Size: 12x24 Installation: See Tile Elevations on ID103			CPT-1	Manufacturer:	Shaw Contract		Comparable Products	TP-1	<u>Manufacturer:</u> Scranton	Toilet Partitions	Comparable
TT-1 (Tile Trim)	Manufacturer: Schluter Systems Product: Edge-protection and transition profiles Style: Varies depending on location, see ID	;	Comparable Products Prior Approval	(Carpet Tile)	Style Name: Color Name: Construction: Size:		In rooms with CPT-1 + CPT-2 50% CPT-1 + 50% CPT-2 Randomly and evenly	Prior Approval	(Toilet Partition)	Product: Plastic Toilet Partitions Color: Bronze Finish: Hammered		by Approval
	Finish: ABGB Brushed Anitque Bronze				Installation:	Brick			10 26 01 WALL AND DOOR PROTECTIO	DN		
ТТ-2	Manufacturer: Schluter Systems Product: Cove Shaped Profile		Comparable Products Prior Approval	CPT-2	Manufacturer: Style Name:	Shaw Contract Convene Tile		Comparable Products Prior Approval	CG-1	Manufacturer: InPro	See ID sheets	Comparable
	Style: DILEX-AHKA Finish: TSB Beige				Color Name: Construction: Size:	Clear Interaction Multi-level pattern loop 12"x48" Brick	In rooms with CPT-1 + CPT-2 50% CPT-1 + 50% CPT-2 Randomly and evenly		(Corner Guards)	Product: Corner Guard 160 Color: TBD Size: 4' high, 2" wing	Install on top of wall base	by Approval
ТТ-3	Manufacturer: Schluter Systems Product: Finishing and Edge Protection Style: Jolly Finish: TSB Beige		Comparable Products Prior Approval	WCPT-1 (Walk Off Carpet)	Color Name:	All Access - Portal Tile	Vestibules Garage	Comparable Products Prior Approval	EW-1 (End Wall)	Manufacturer: InPro Product: Surface Mount End Wall Color: Stainless Steel Size: 9' high, 2" wing	See ID sheets Install on top of wall base	Comparable by Approval
					Size: Backing:	24"x24" Synthetic; ecoworx tile Monolithic			12 24 00 WINDOW SHADES			
				09 84 30 ABSORBING WALL AND CEILING UNITS					WS-1 (Window Shades)	Manufacturer: MechoShade Product: EuroTwill Color: Selected by A/E	See ID sheets	Comparable by Approval
				AWP-1 (Acoustical Wall Panel)	Core	Basis of Design 2" See A210 for sizes	Multipurpose Room	Comparable Products Prior Approval		Style: 3% Openness Fascia: TBD		
					FABRIC Manufacturer: Style:	Guilford of Maine Anchorage To be Selected by A/E			WS-2	Manufacturer: MechoShade Product: EuroTwill Color: Selected by A/E Style: 1% Openness Fascia: TBD	See ID sheets	Comparable by Approval



BID DOCUMENTS

HSR Project Number:

Key Plan:

8.20.2020

Revisions:

No. Description Date

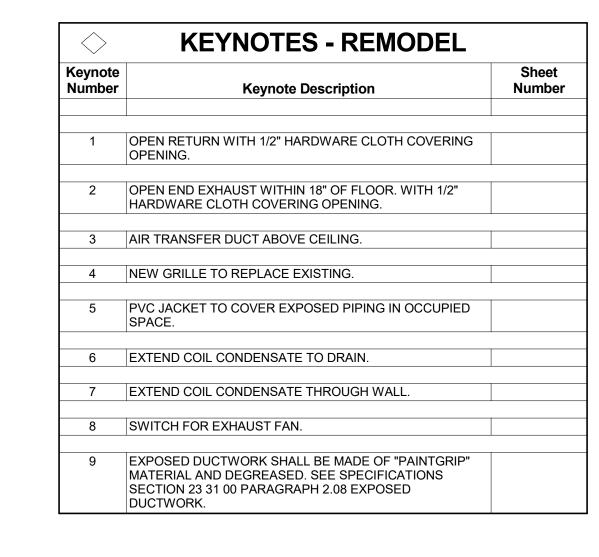
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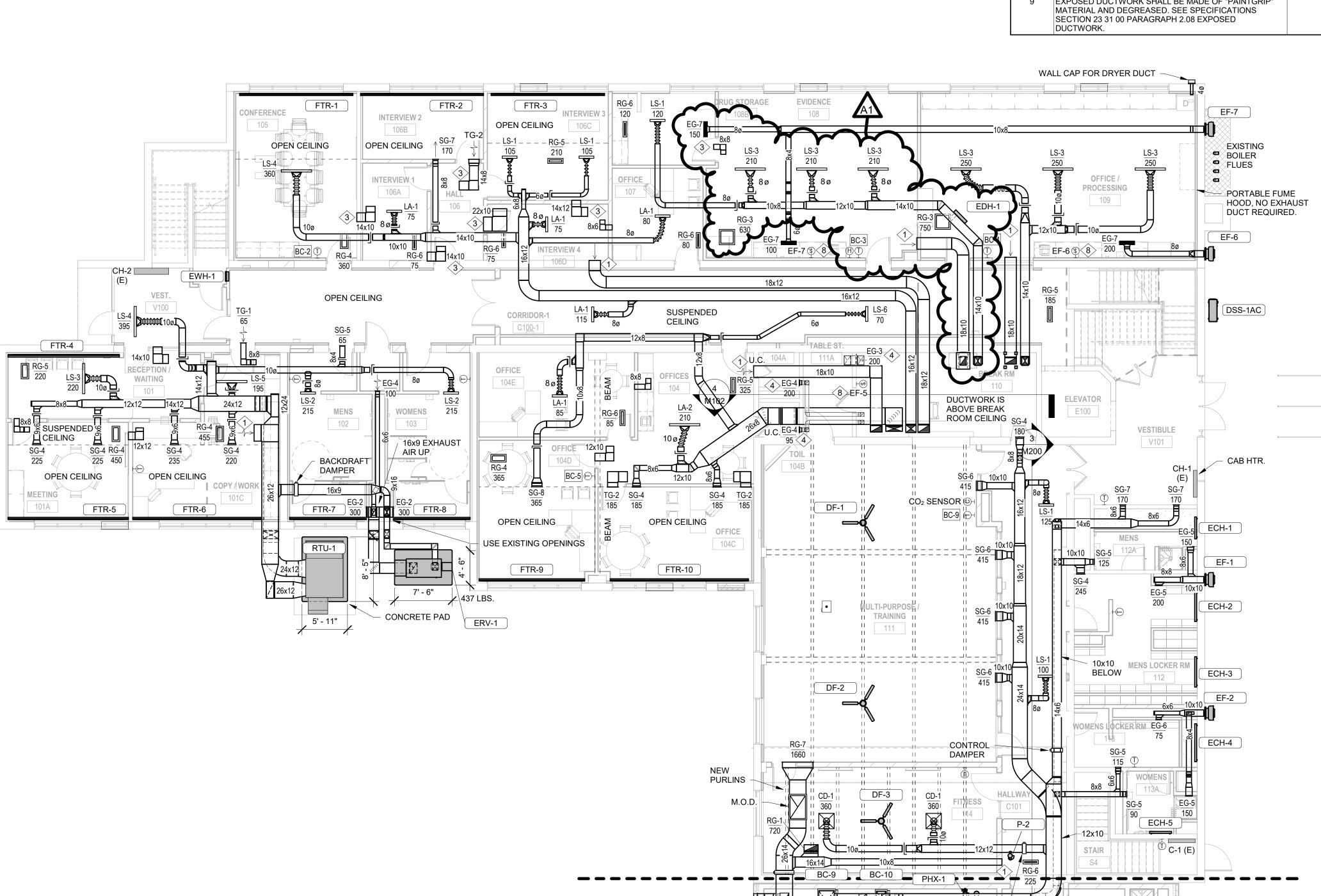
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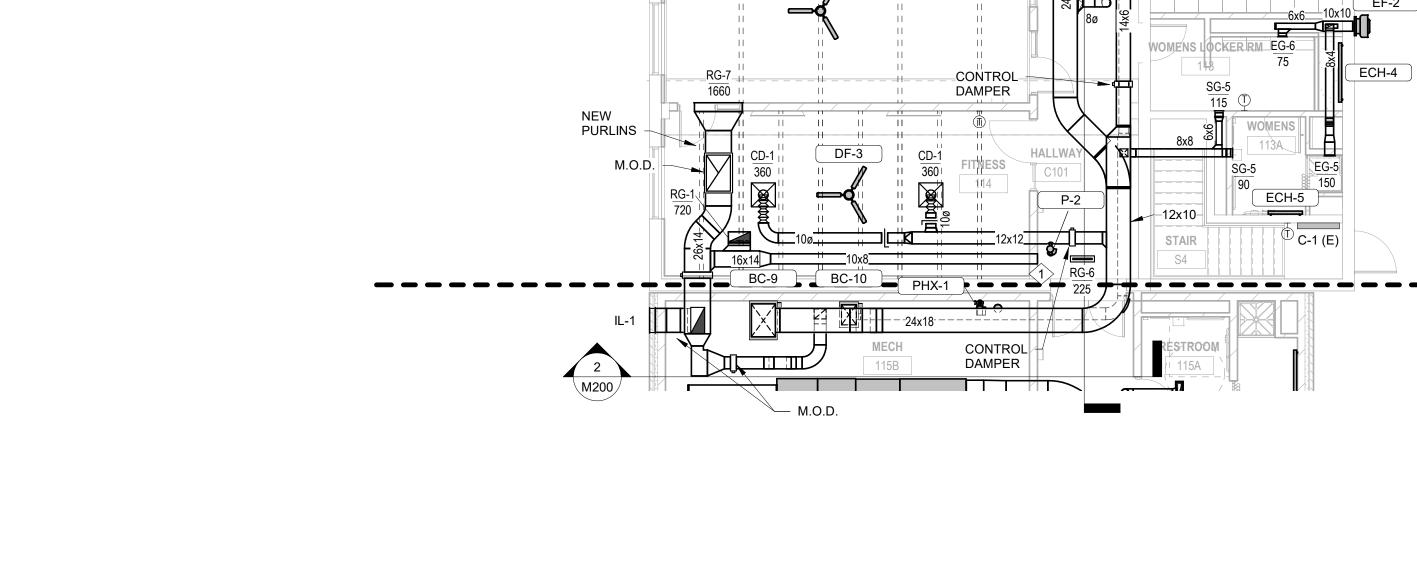
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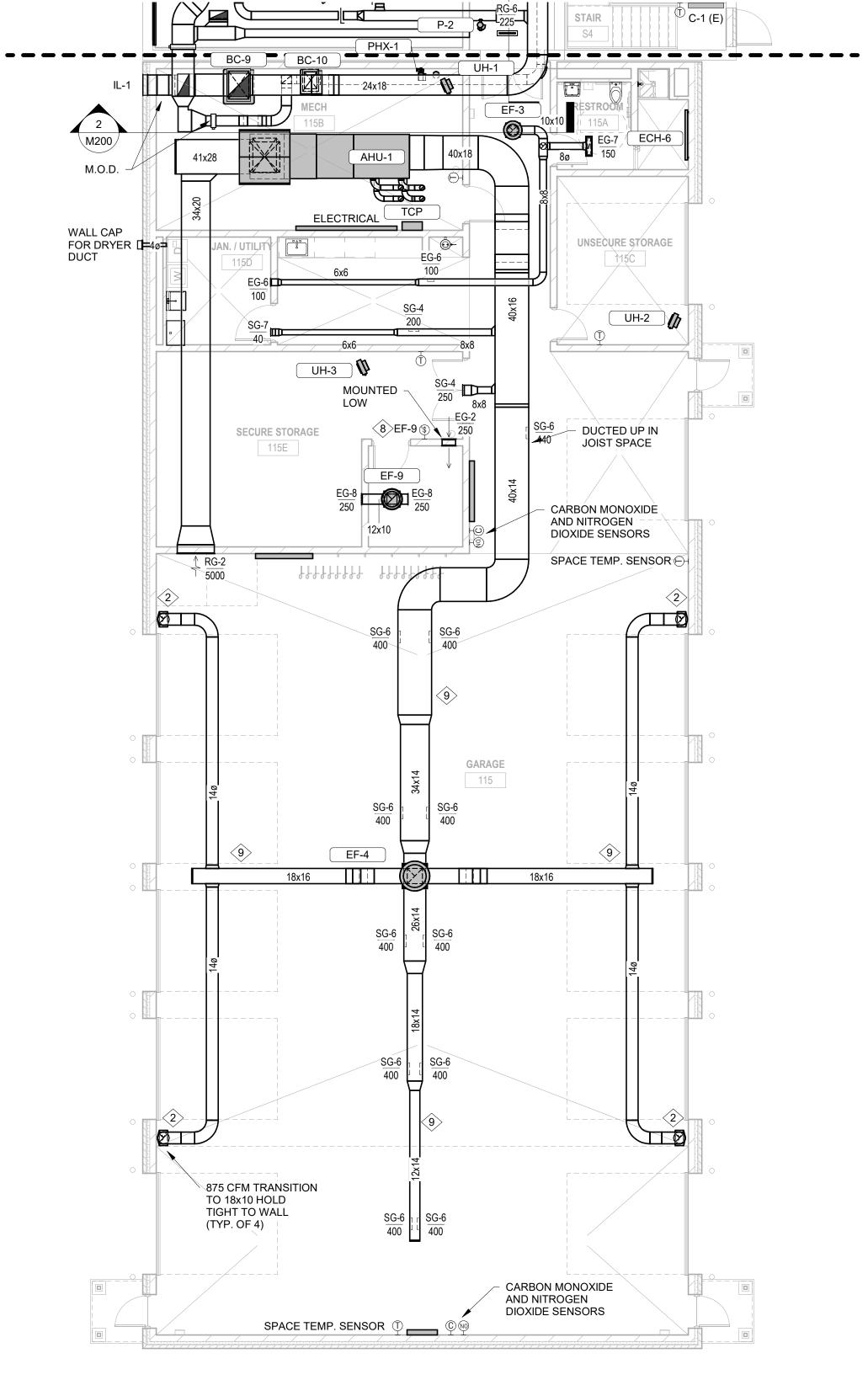
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ID600





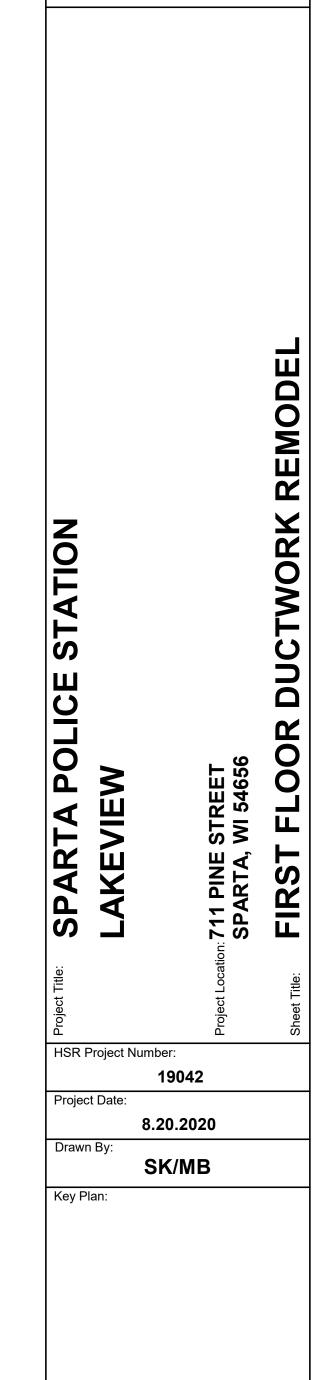






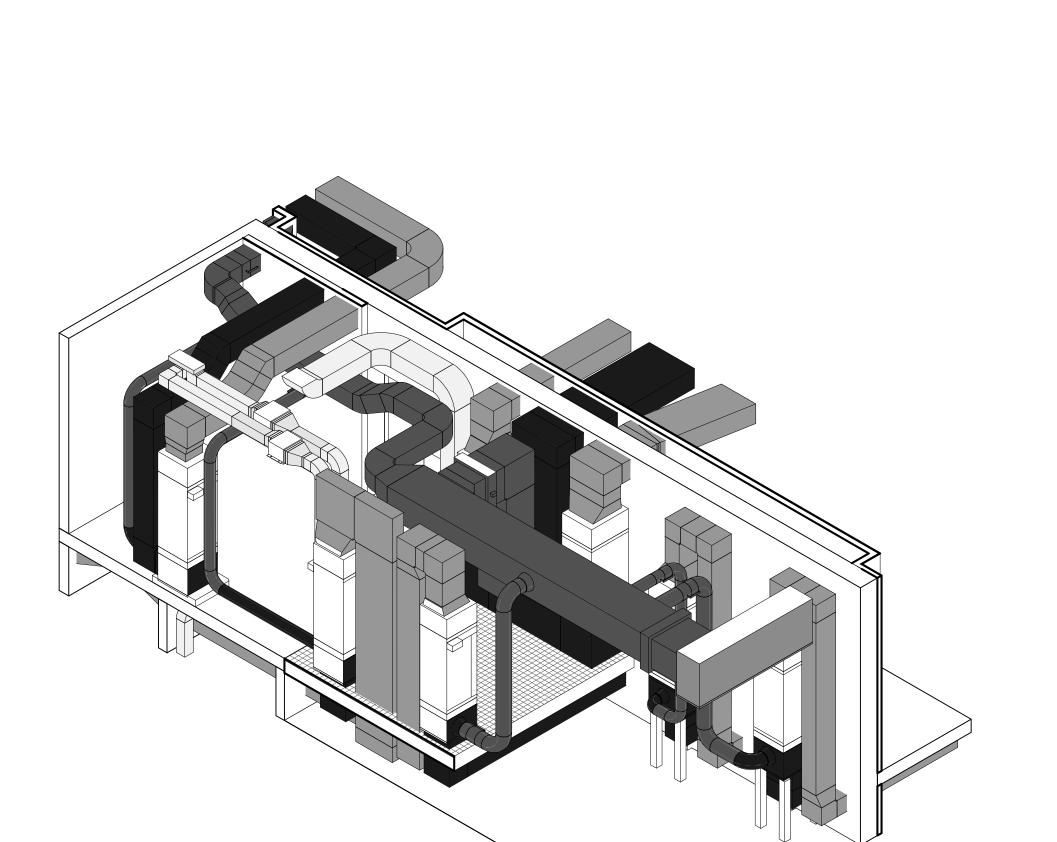




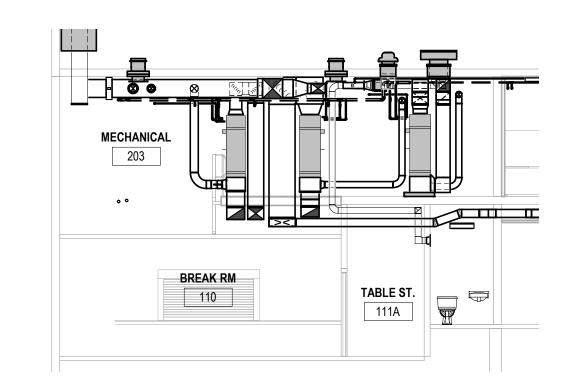


BID **DOCUMENTS** A1 Addendum #1

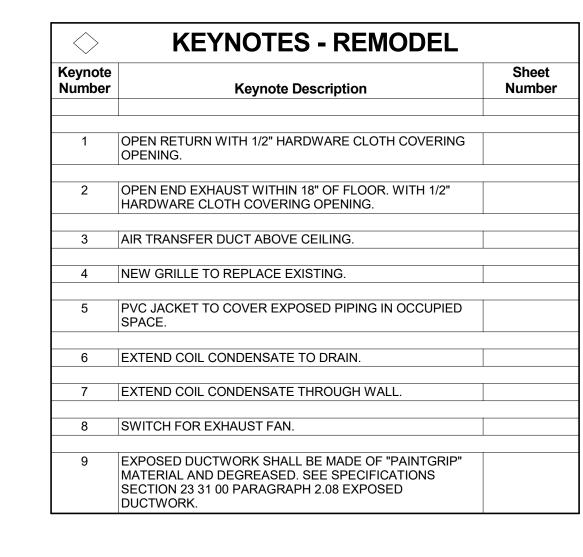
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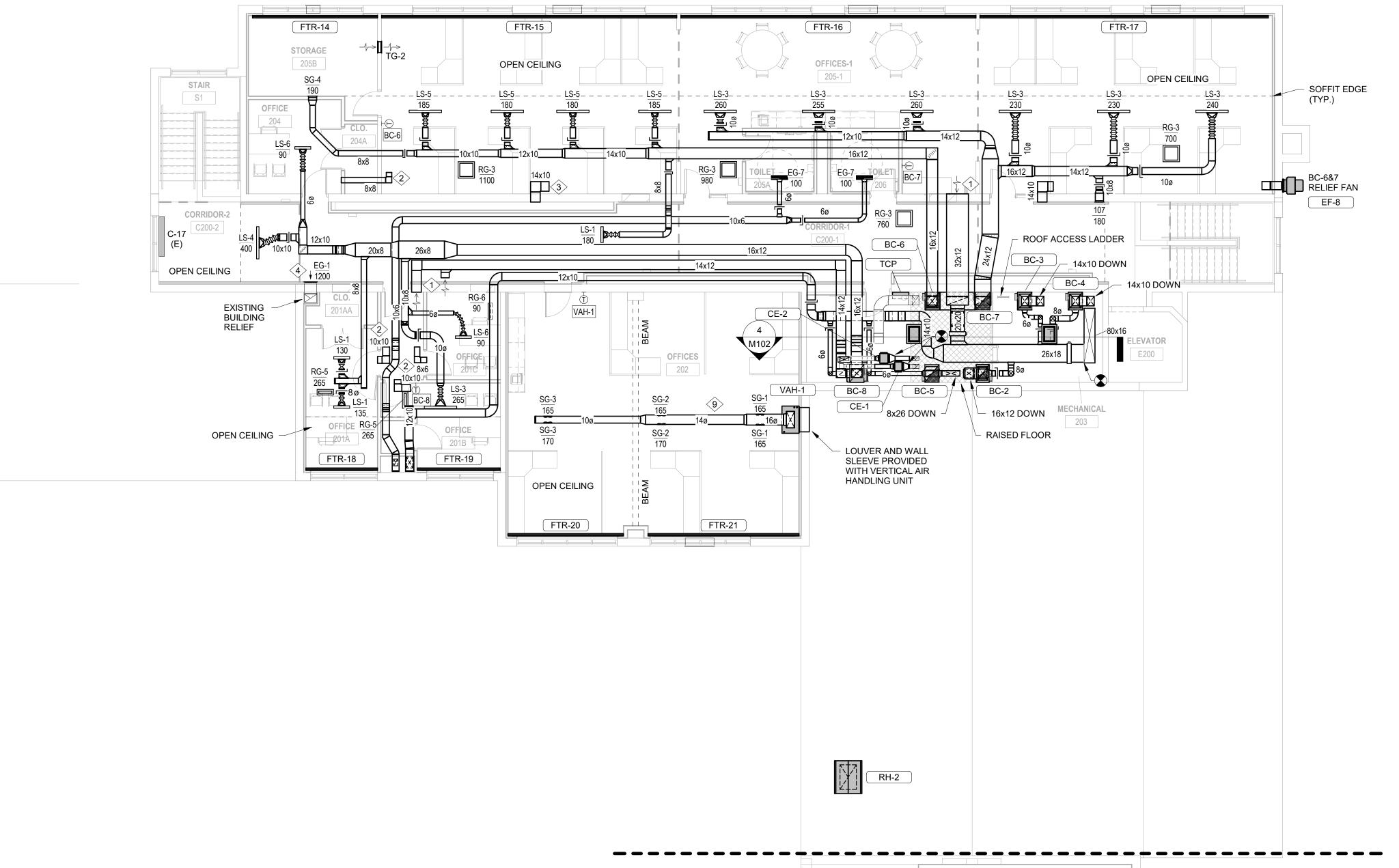


MECHANICAL ROOM 203 DUCTWORK

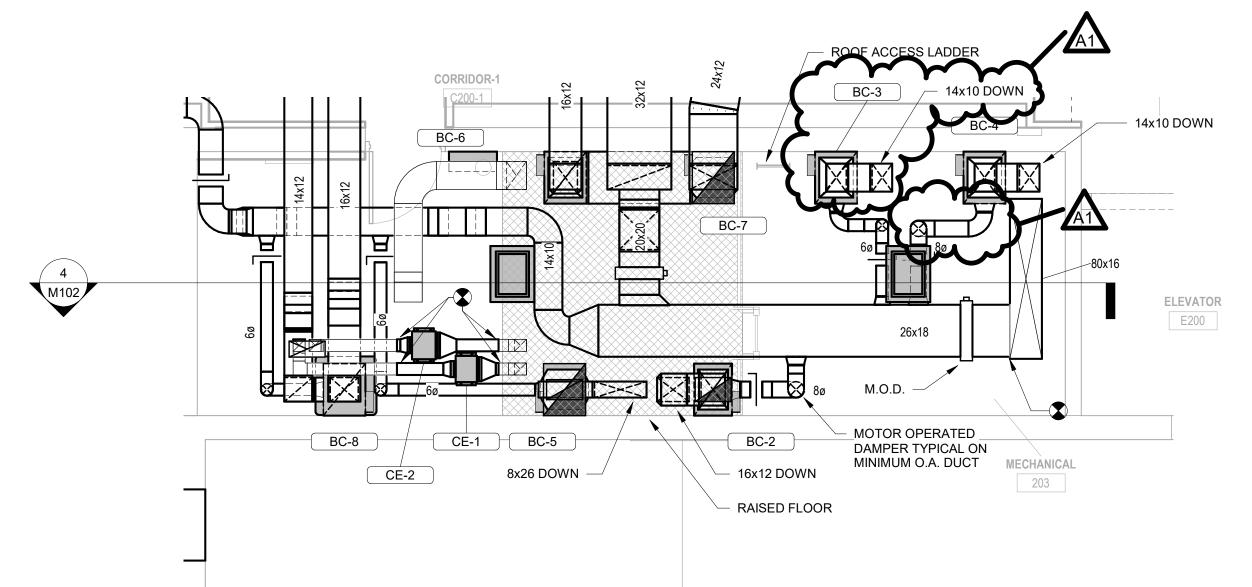






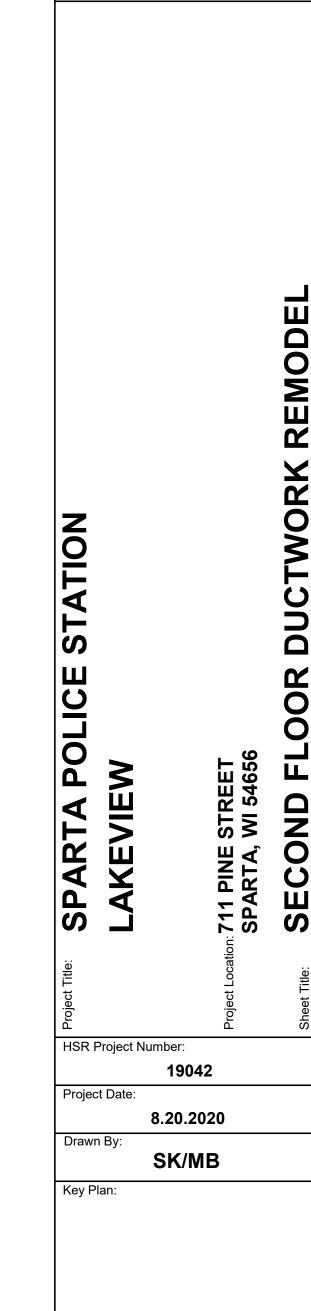


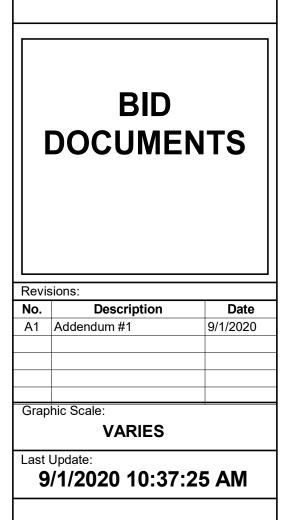




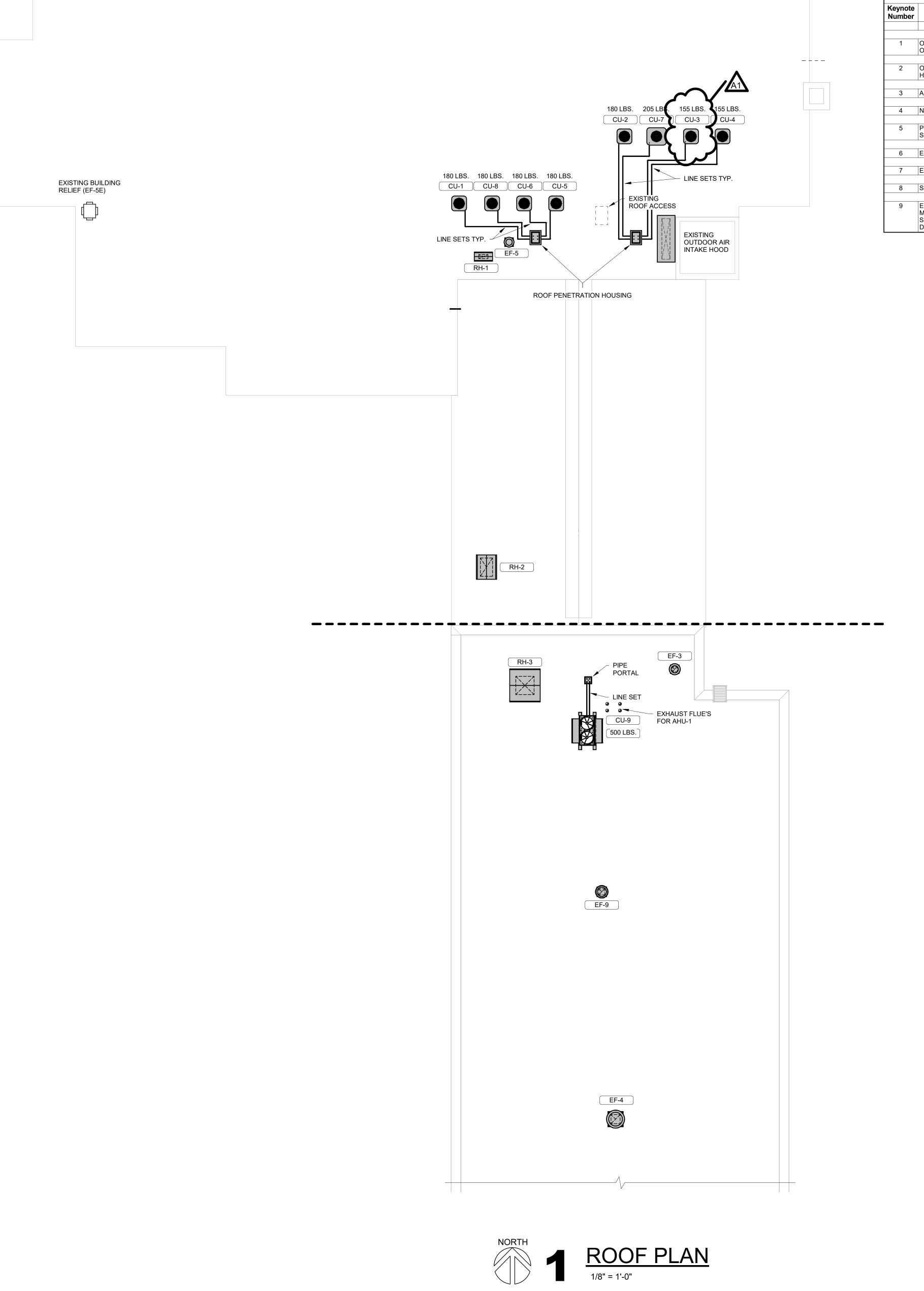


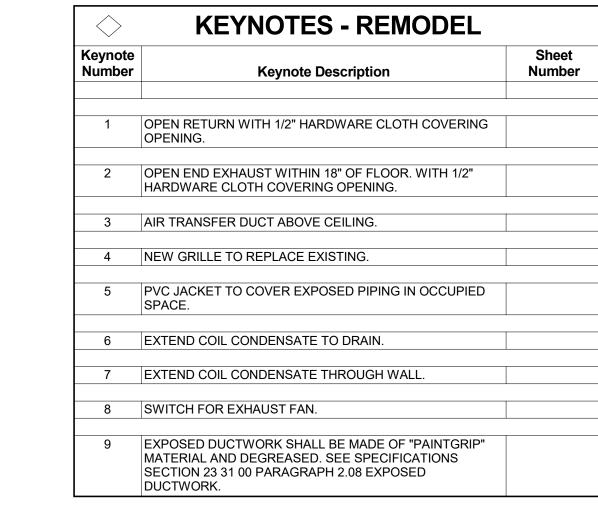






M102





HSR ASSOCIATES INC.

100 MILWAUKEE STREET

LA CROSSE, WISCONSIN

PHONE: 608.784.1830

FAX: 608.782.5844

www.hsrassociates.com

Consultant:

Project Title: SPARTA POLICE STATION
LAKEVIEW
LAKEVIEW
SPARTA, WI 54656

8.20.2020

SK/MB

BID DOCUMENTS

Revisions:

No. Description Date

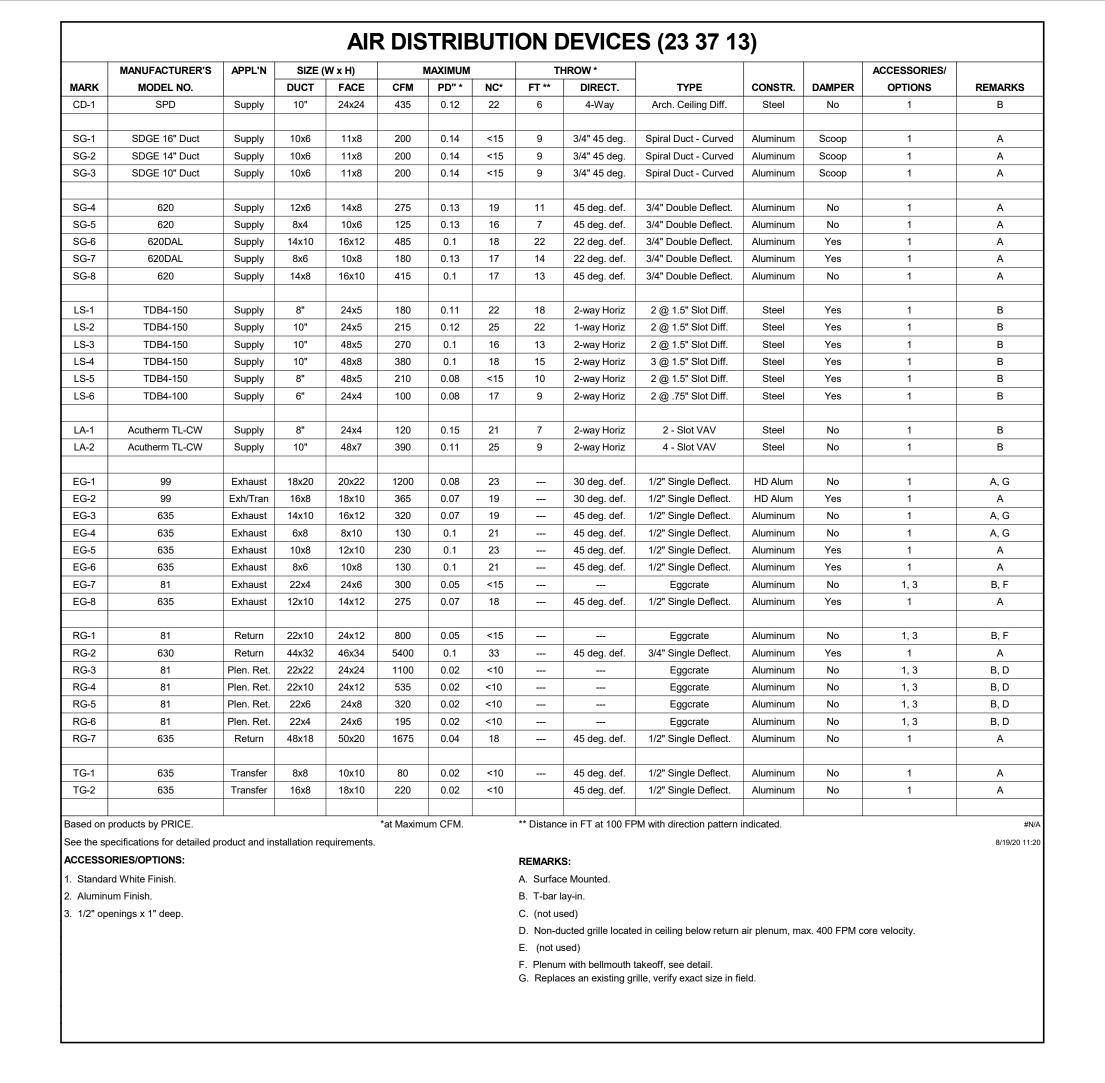
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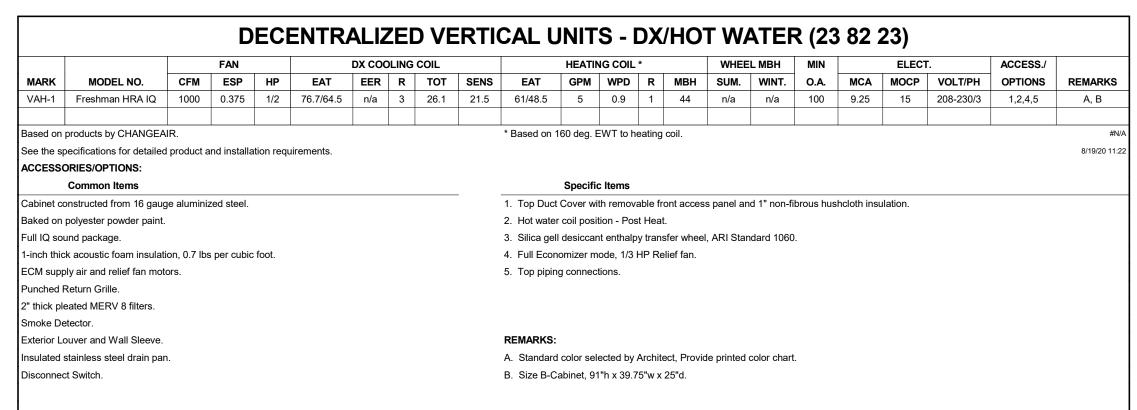
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M103





MARK	MANUFACTURER'S	SERVING	CFM	MAX.	EAT	LAT	TOT.	KW/		DUCT		EI	ECTRIC P	OWER	ACCESSORIES/	REMARKS
EDH-	MODEL NO.			PD"	DB	DB	МВН	SqFt	WID.	HGT.	FPM	KW	STEPS	VOLT/PH	OPTIONS	
1	QUA	BC-3	750	0.03	55	70	12.16	3.67	14	10	771	3.6	SCR	208/1	1, 2, 3	A, B
	tional Power Controller (SCI e Terminal Box	ty with safety com	actor.					D. Contro	olica by b	AO IIOIII III	unnuity Sci	пзог птрат	, when rica	ting water is n	ot available.	

FOR REFRIGERANT SUCTION PIPING,

PROVIDE INSULATION PIPING SHIELD

PROVIDE PIPE CLAMPS FOR REFRIGERANT LIQUID

REFRIGERANT PIPING SUPPORTS WITH

C CHANNEL STRUT, SEE SPECIFICATION

FOR DETAILS AND SUPPORT SPACING.

SUPPORTS SHALL SIT ON SACRIFICIAL

PROVIDE PROTECTIVE JACKET

OR COATING ON ALL EXTERIOR

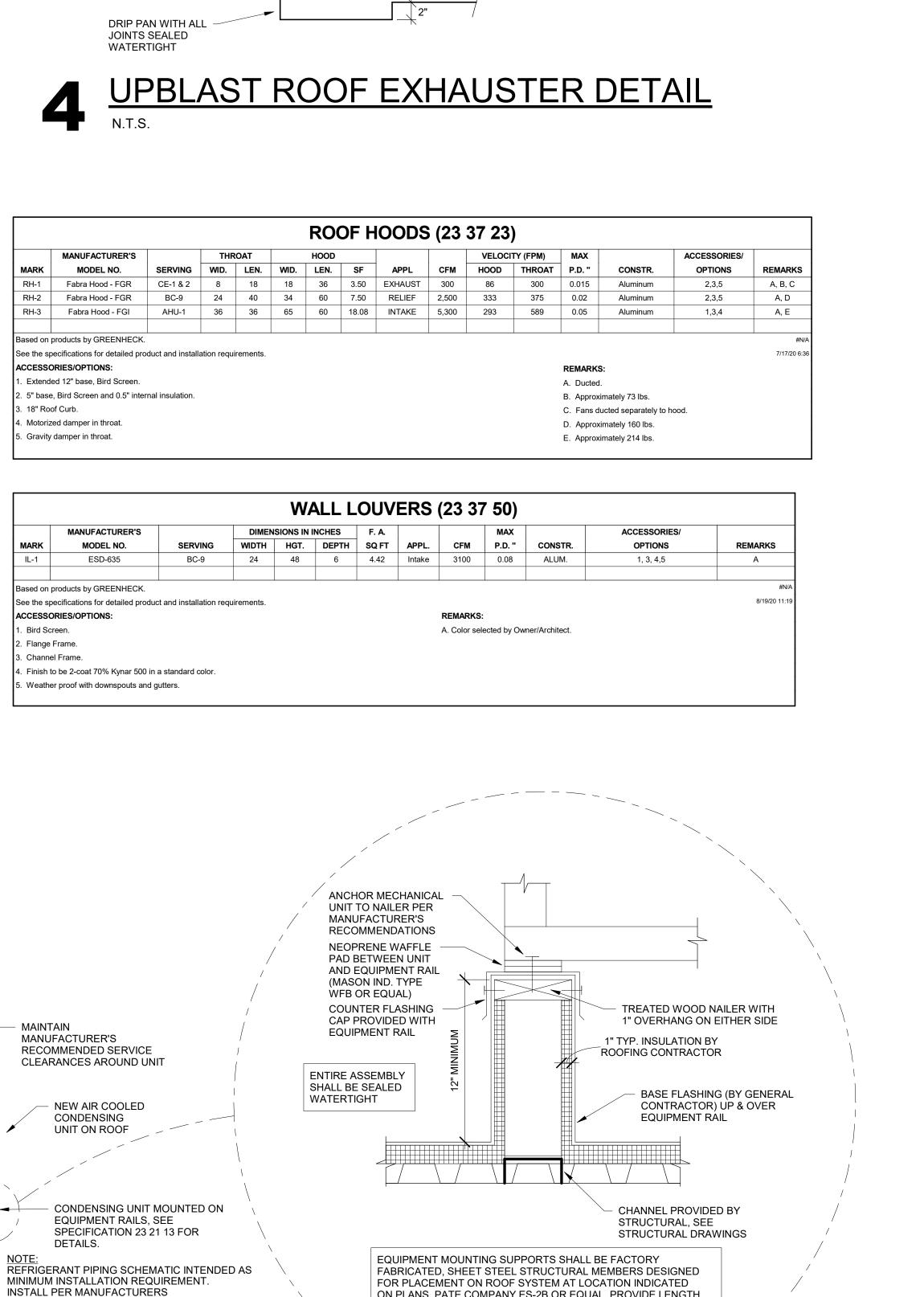
PIPING & SEAL WATERTIGHT

ROOF MEMBRANE.

(TYPICAL)

PIPING (TYPICAL)

AND PIPE CLAMPS (TYPICAL)



ON PLANS PATE COMPANY ES-2B OR FOLIAL PROVIDE LENGTH

MANUFACTURER OF EQUIPMENT. EQUIPMENT RAILS SHALL HAVE

1.5X LOADING CAPABILITIES OF SUPPORTING EQUIPMENT LOAD.

OF SUPPORTS AS REQUIRED AND SPACE ACCORDINGLY PER

DIRECT/BELT DRIVE ROOF EXHAUSTER, SEE

INSTALL VARIABLE SPEED CONTROLLER IN HOUSING FOR BALANCING (WHERE APPLICABLE,

SCHEDULE FOR SIZE & TYPE.

PROVIDE AIR TURNS IN ELBOWS AT **ENTRANCE TO ROOF EXHAUSTERS**

18" MINIMUM

STRUCTURAL SUPPORT

(TYPICAL)

SERVICE

PROVIDE CAM

OPERATED ACCESS PANEL IN DUCT FOR

STEEL AT ROOF OPENING

PROVIDED BY STRUCTURAL.

FACTORY INSTALLED DISCONNECT

FACTORY WIRED FROM MOTOR

SEE SCHEDULE/SPECIFICATIONS)

CONDUIT CHASE. ALL FIELD WIRING TO

DISCONNECT BY ELECTRICAL TRADE.

USING CADMIUM PLATED SCREWS

CENTRIFUGAL BACKWARD INCLINE FAN

1/2" GALVANIZED WIRE MESH BIRDSCREEN

FASTEN SECURELY TO ROOF CURB NAILER

FACTORY FABRICATED ROOF CURB WITH RIGID

FIBERGLASS INSULATION. GALVANIZED STEEL

PROVIDED & INSTALLED BY HVAC TRADE.

FLASH WATERTIGHT BY GENERAL TRADE

RECOMMENDED DAMPER AND DUCT SIZE

BACKDRAFT DAMPER (NOT AT

KITCHEN HOOD APPLICATIONS)

RECOMMENDED ROOF OPENING.

INSULATE EXHAUST DUCTWORK

10'-0" AWAY FROM ROOF OPENING

CONTINUOUS FROM DISCHARGE TO

PROVIDED BY HVAC TRADE.

UNIT TO MOUNT ON CURB SEALS PROVIDED WITH UNIT.

CONSTRUCTION FURNISHED WITH ROOF EXHAUSTER

NOTE: IF STRUCTURE IS PITCHED, CURB SHALL BE

SAME PITCH SO UNIT MOUNTS LEVEL (TYPICAL)

TO DISCONNECT

ROOF DECK



RECOMMENDATIONS. IF THE MANUFACTURERS

ADDITIONAL PIPING, TRAPS, ACCESSORIES OR

PIPE SIZE VARIATIONS, THE MANUFACTURERS

RECOMMENDATIONS SHALL BE FOLLOWED.

RECOMMENDED INSTALLATION REQUIRES

CONNECTIONS

(TYPICAL)

ROOF PENETRATION VAULT, SEE

PROVIDE NECESSARY EXIT SEALS

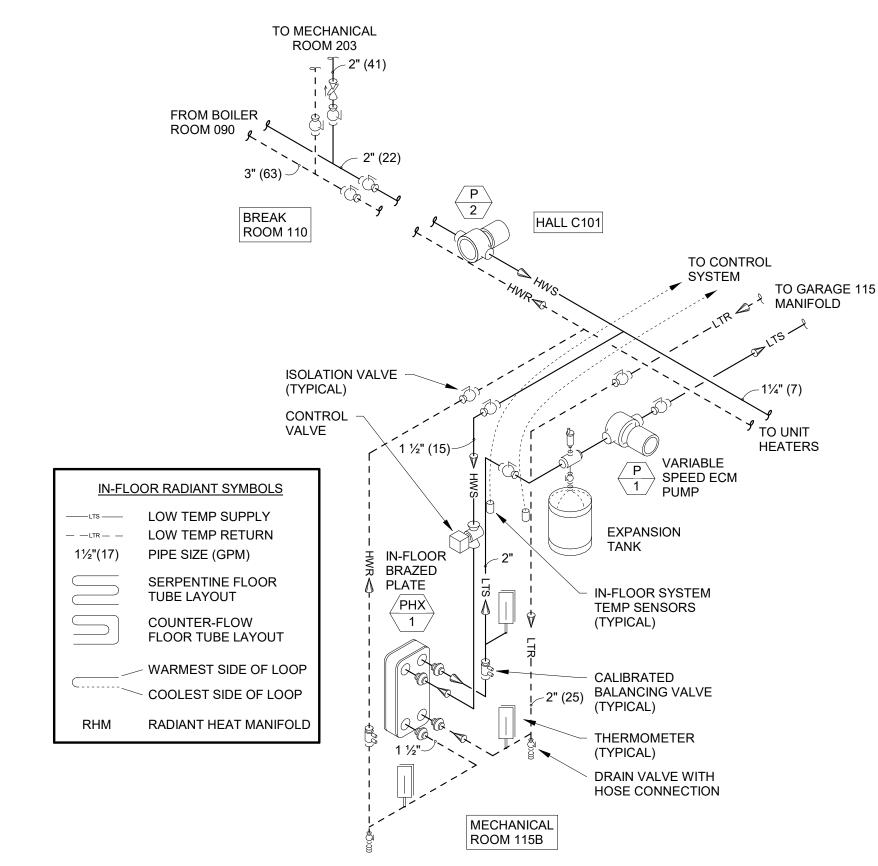
ELECTRICAL, & CONTROL CONDUIT

SPECIFICATION FOR DETAILS.

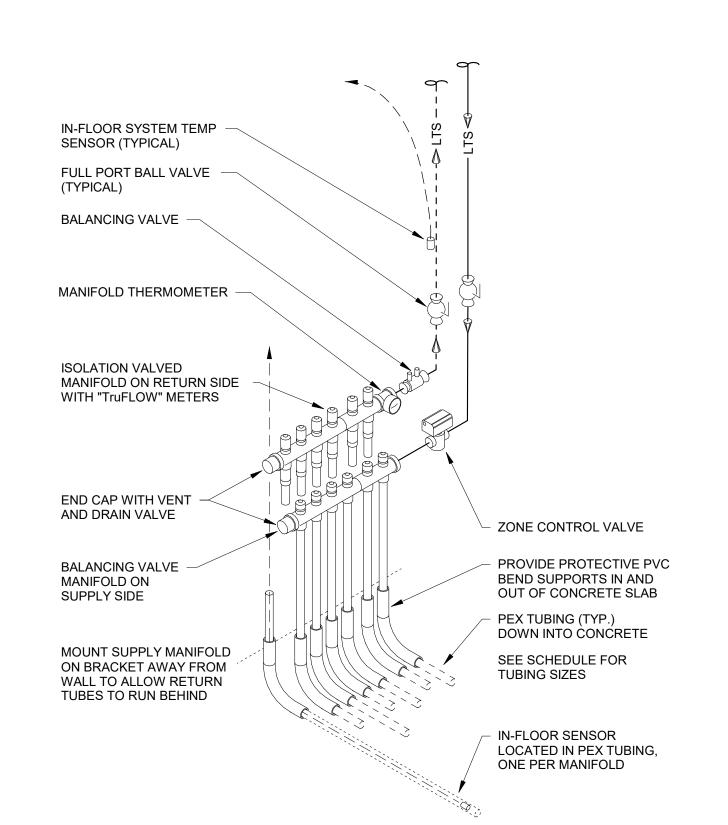
FOR REFRIGERANT PIPING,

REQUIREMENTS.

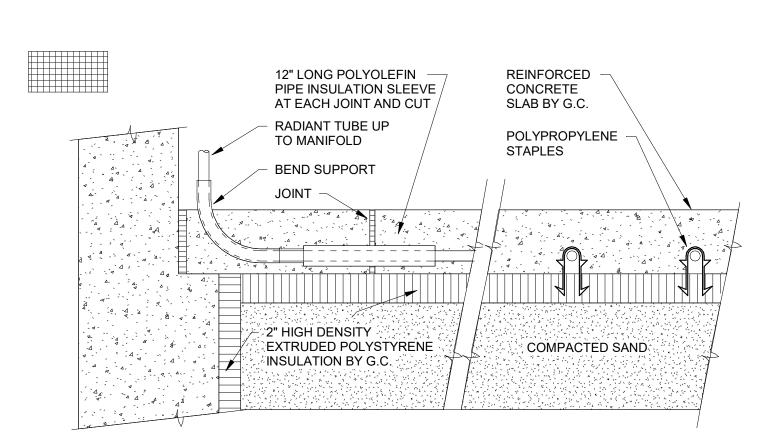
REFRIGERANT



RADIANT HEAT EXCHANGER N.T.S.

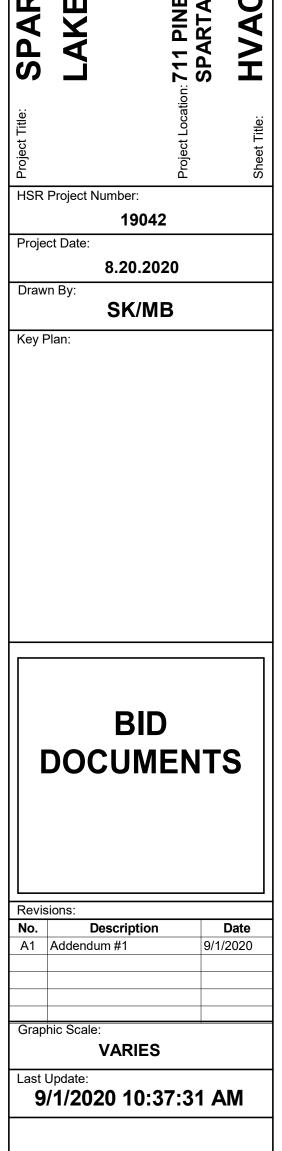


RADIANT HEAT MANIFOLD



RADIANT TUBES IN CONCRETE





	MANUFACTURER'S					LENG	TH	EAT	TOT.		0%	% P.G.		BTUH	MOUNT.		ACCESSORIES/	
MARK	MODEL NO.	LOCATION	F				ENCLOSURE	DB	втин	GPM	EWT	LWT	PD. FT	FT*	HGT. ^	TIERS	OPTIONS	REMARKS
FTR-1	Classic CLCU75	Confrence 105	1	@	8	FT	13'-9"	65	3840	0.5	160	144.64		480	9.125"	1	1 - 4	Α
FTR-2	Classic CLCU75	Interview 2 106B	1	@	8	FT	15'-0"	65	3840	0.5	160	144.64		480	9.125"	1	1 - 4	Α
FTR-3	Classic CLCU75	Interview 3 106C	1	@	8	FT	13'-9"	65	3840	0.5	160	144.64		480	9.125"	1	1 - 4	Α
FTR-4	Classic CLCU75	Recept/Waiting 101	2	@	2	FT	13'-6"	65	1920	0.5	160	152.32		480	9.125"	1	1 - 4, 5	А
FTR-5	Classic CLCU75	Meeting 101A	1	@	8	FT	14'-8"	65	3840	0.5	160	144.64		480	9.125"	1	1 - 4, 5	А
FTR-6	Classic CLCU75	101B & 101C	2	@	4	FT	16'-1"	65	3840	0.5	160	144.64		480	9.125"	1	1 - 4, 5	Α
FTR-7	DesignLine Elegance	Mens 102	1	@	8	FT	9'-0"	65	2080	0.5	160	151.68		260	8"	1	1 - 4, 5	В
FTR-8	DesignLine Elegance	Womens 103	1	@	8	FT	9'-0"	65	2080	0.5	160	151.68		260	8"	1	1 - 4, 5	В
FTR-9	Classic CLCU75	Chiefs Office 104D	1	@	8	FT	12'-9"	65	3840	0.75	160	-		480	9.125"	1	1 - 4, 6	А
FTR-10	Classic CLCU75	Chiefs Office 104C	2	@	5	FT	17'-0"	65	4800			137.0		480	9.125"	1	1 - 4, 6	Α
FTR-11	Classic CLCU75	Multi-Purpose 110 N	1	@	8	FT	10'-6"	65	3840	1	160			480	9.125"	1	1 - 4, 6	Α
FTR-12	Classic CLCU75	Multi-Purpose 110 S	1	@	8	FT	11'-2"	65	3840					480	9.125"	1	1 - 4, 6	Α
FTR-13	Classic CLCU75	Fitness 113	1	@	8	FT	11'-10"	65	3840			137.0		480	9.125"	1	1 - 4, 6	А
FTR-14	Classic CLCU75	Storage 204	1	@	8	FT	14'-3"	65	3840	0.5	160	144.64		480	9.125"	1	1 - 4, 5	Α
FTR-15	Classic CLCU75	Patrol Office 205 West	2	@	8	FT	35'-0"	65	7680	0.75	160	139.52		480	9.125"	1	1 - 4	А
FTR-16	Classic CLCU75	Patrol Office 205 Center	2	@	8	FT	35'-0"	65	7680	0.75	160	139.52		480	9.125"	1	1 - 4	А
FTR-17	Classic CLCU75	Patrol Office 205 East	2	@	8	FT	34'-2"	65	7680	0.75	160	139.52		480	9.125"	1	1 - 4	Α
FTR-18	Classic CLCU75	Detective Office 201A	1	@	6	FT	7'-9"	65	2880	0.5	160	148.48		480	9.125"	1	1 - 4, 5	А
FTR-19	Classic CLCU75	Detective Office 201A	1	@	6	FT	9'-1"	65	2880	0.5	160	148.48		480	9.125"	1	1 - 4, 5	А
FTR-20	Classic CLCU75	Sgt Office 202 West	1	@	8	FT	13'-1"	65	3840	0.5	160	144.64		480	9.125"	1	1 - 4, 5	А
FTR-21	Classic CLCU75	Sgt Office 202 West	1	@	8	FT	17'-5"	65	3840	0.5	160	144.64		480	9.125"	1	1 - 4, 5	Α
				@		FT												
				@		FT												
				@		FT												
ased on p	products by STERLING.									* Includ	es correct	ion factors				•		#
ee the sp	ecifications for detailed pr	roduct and installation requir	emer	nts.						^ Heigh	t to top of	enclosure.						7/13/20 7
CCESSO	RIES/OPTIONS:									REMAR	KS:							
Access	Panels at valves, traps and	vents. and end sections.								A. 3/4"	tube with	60 @ 2 1/2	2" x 2 3/4" a	aluminum fi	ns/foot.			
. Include	rim strips, end caps, damp	ers, corners and support brack	kets a	as req	uired	d.				B. 1/2"	DL-500 tu	ube with ex	truded and	die cast alı	uminum parts	. Mounted	d 1.5" off floor.	

I '	MANUFACTURER'S								WA	TER		El	LECT.	ACCESSORIES/	
MARK	MODEL NO.	LOCATION	TYPE	CFM	MBH	EAT	LAT	GPM	EWT	LWT	PD.FT.	Watts	VOLT/PH	OPTIONS	REMARKS
UH-1	HS-125A	115B Mech	Horizontal	460	14.0	60	92.9	2.5	160	148.8	2.2	1/20	115/1	1, 2	А
UH-2	HS-118A	115C Unsecure	Horizontal	420	9.0	60	83.2	1.9	160	150.52	2.2	16 W	115/1	1, 2	В
UH-3	HS-125A	115E Secure	Horizontal	460	14.0	60	92.9	2.5	160	148.8	2.2	25 W	115/1	1, 2, 3	A
•	lucts by STERLING.		.i												#1
•	ications for detailed produ	ict and installation requ	urements.					DEMARK	7 0.						7/8/20 6
CESSURIE	S/OPTIONS:							REMARK	(5:						
Individually	adjustable horizontal louv	ers.						A. 16"h :	< 18"w x 9	.5"d, 25 lbs	3.				

6. Return pipe in enclosure, serving multiple rooms.

MARK	MANUFACTURER'S	LOCATION	COLOR	LENGTH	MIN.	H	HEAT ELEM	ENT	CONTROL	ACCESSORIES/	REMARKS
ECH-	MODEL NO.				втин	AMPS	WATTS	VOLT/PH		OPTIONS	
1	RCC-4508C	111A Mens	White	34	1,536	2.2	450	208/1	BAS	1 - 5	А
2	RCC-6008C	111 Mens Locker	White	47	2,048	2.9	600	208/1	BAS	1 - 5	A
3	RCC-6008C	111 Mens Locker	White	47	2,048	2.9	600	208/1	BAS	1 - 5	A
4	RCC-7508C	112 Womens Locker	White	59	2,560	3.6	750	208/1	BAS	1 - 5	А
5	RCC-4508C	112A Womens	White	34	1,536	2.2	450	208/1	BAS	1 - 5	A
6	RCC-7508C	115A Restroom	White	59	2,560	3.6	750	208/1	BAS	1 - 5	A
1. Radian 2. Extrude	DRIES/OPTIONS: t and convection heating. ed aluminum front panel. mperature textured powder of	coat finish.					6. Integral7. Splice P	•	-90 degree F rar	nge.	8/10//
1. Radian 2. Extrude 3. High te 4. 5-year	t and convection heating.	coat finish.					7. Splice P	late.	-90 degree F rar Electrical Contra	G	8/10//
1. Radian 2. Extrude 3. High te 4. 5-year 5. Built-in	t and convection heating. ed aluminum front panel. mperature textured powder of element warranty. high temperature cut-off. ANEL: The front panel whice					erature" rat	7. Splice P REMARKS A. To be in	istalled by the	Electrical Contra	ctor. high radiating efficiency	8/10// /. The backside of the front pane

	MANUFACTURER'S	LOCATION		WALL	MIN.	l	FAN	l l	HEAT ELEM	ENT		ACCESSORIES/	
MARK	MODEL NO.		STYLE	RECESS	BTUH	CFM	SONES	AMPS	WATTS	VOLT/PH	CONTROL	OPTIONS	REMARKS
EWH-1	AWH4404F	Stair 1	Heavy-Duty	3-7/8"	10,235	100		14.4	3,000	208/1	Integral	1, 2, 3	A, B
 3ased on	products by Q-Mark.												#
Equal pro	ducts by Berko are accept	table.											8/10/20
ACCESS	ORIES/OPTIONS:						REMARKS:						
1. Heavy	duty tamper resistant bar gr	ille.					A. Located	in new wall	on First Floo	or.			
. AWHS	1 semi-recessed mounting f	rame.					B. To be ins	stalled by th	ne Electrical	Contractor.			
3. Low Vo	oltage Relay for BMS interfa	ce.											
	: Architectural Heavy Duty F												
liscourag hall be s	: Architectural Heavy Duty F e insertion of foreign objects urrounded by a decorative sa ELEMENT: Electric heating	s and direct air downwa atin-finish aluminum "p	ard to distribute he picture" frame.	eat. Three piec	e design with	a 20-gaug	e back box, h	neater asse	mbly and fro	nt panel for re	cess, semi-reces	ssed or surface mountin	g. The front grille
liscourag shall be si HEATING FAN AND FAN DEL	e insertion of foreign objects urrounded by a decorative sa	s and direct air downwa atin-finish aluminum "p g elements shall be nor bladed aluminum. Fan aall be of bi-metallic, sr	ard to distribute he picture" frame. n-glowing design of motor shall be to nap-action type an	eat. Three piecests. Three piecests. Consisting of 80 stally enclosed.	ce design with 0/20 nickel-ch	a 20-gaug	e back box, h	neater asse	mbly and fro	nt panel for re	cess, semi-reces	esed or surface mounting	g. The front grille
discourage hall be so hall be thermore. THERMO	e insertion of foreign objects urrounded by a decorative sa ELEMENT: Electric heating MOTOR: Fan shall be five- AY SWITCH: Fan control sh	s and direct air downwa atin-finish aluminum "p g elements shall be nor bladed aluminum. Fan Iall be of bi-metallic, sr e heating element is co	and to distribute he continued from the continued f	consisting of 80 tally enclosed. d shall activate action type wit	ce design with 0/20 nickel-ch e fan after hea	romium res	e back box, f sistance wire nt reaches op	neater asse enclosed ir perating ten	mbly and from the steel she in a steel she in perature. The	nt panel for real	cess, semi-reces ate fins are copp ntinue to operate	er brazed, with 5-year v	g. The front grille warranty.
discourages hall be so HEATING FAN AND FAN DEL. he thermore hall be thermore hall be the manual-reason.	e insertion of foreign objects urrounded by a decorative sate ELEMENT: Electric heating MOTOR: Fan shall be five-AY SWITCH: Fan control shostat is satisfied and until the STAT: The tamper-proof the	s and direct air downwa atin-finish aluminum "p g elements shall be nor bladed aluminum. Fan iall be of bi-metallic, sr e heating element is co ermostat shall be of the built into the system to	and to distribute he dicture" frame. n-glowing design of the motor shall be to hap-action type and bool. bi-metallic snapshut off the heater	consisting of 80 tally enclosed. d shall activate action type with the event of the	ce design with 0/20 nickel-ch e fan after hea th enclosed co of overheating	romium resoluting eleme	e back box, he sistance wire nt reaches opshall be comp	enclosed in perating ten	mbly and from a steel she na steel she nperature. The ealed behind	ath to which plane fan shall co	cess, semi-reces ate fins are copp ntinue to operate r to become tam	er brazed, with 5-year ver after per proof. THERMAL C	g. The front grille warranty.

LO	OP DE	SIGN @	15	DEGREE	D.T. &	30	% PROF	PYLENE GI	YCOL/W	ATER MIX		FLO	OOR	RO	OM / AREA	LOOP	LOOP
MANIFOLD	MIN	I TUBE	LOOP	APRROX.	ADJU	STED LO	OP ***	FLOOR	BTUH	TUBE	MIN. **	TEMP.	COVER	TEMP.	LOCATION	ACCESS.	REMARKS
RHM-#	#	SIZE	BTUH	LENGTH	GPM	D.T.	P.D.	AREA *	/ SF	SPACING	EWT	DEG. F	Rv	DEG. F			
	1	5/8	13,000	426	1.58	16.4	16.08	340	38	12	106.5	84	0.1	65	SE Core	СТ	S
	2	5/8	13,000	410	1.51	17.2	14.23	384	34	12	101.5	82	0.1	65	NE Core	СТ	S
1	3	5/8	13,500	338	1.80	15.0	15.98	320	42	12	116.5	86	0.1	65	NE Exterior	ST	S
	4	5/8	12,500	494	1.45	17.2	16.01	408	31	12	101.5	80	0.1	65	SE Exterior	ST	S
Ì	5	5/8	13,500	372	1.72	15.7	16.27	360	38	12	111.5	84	0.1	65	Single Bay	ST	S
Ì	6	1/2	5,000	456	0.47	21.2	6.08	420	12	12	82.5	71	0.1	65	Hall	СТ	S
	1	5/8	13,600	332	1.81	15.0	15.90	320	43	12	116.5	86	0.1	65	NW Exterior	ST	S
2	2	5/8	13,000	396	1.51	17.2	13.74	384	34	12	101.5	82	0.1	65	NW Core	CT	S
	3	5/8	13,000	406	1.58	16.4	15.33	340	38	12	106.5	84	0.1	65	SW Core	СТ	S
	4	5/8	13,000	474	1.51	17.2	16.45	408	32	12	101.5	81	0.1	65	SW Exterior	ST	S
3	1	5/8	11,000	272	1.44	15.3	8.71	260	42	12	114.5	86	0.1	65	West	ST	S
	2	5/8	11,000	272	1.44	15.3	8.71	260	42	12	114.5	86	0.1	65	East	ST	S
	To	otals ==>	145,100	4,648	17.8			4,204				•	* Floor are	a available for	tubes.		#1
	Maxin	mum ==>					19				116.5	=	** Minimur	n EWT at des	gn conditions.		7/21/20 6
	Avei	rage ==>				16.3			34.5				*** At max	imum water te	mperature.		
Based on prod	ducts l	by UPON	OR			APPROX	(IMATE 1	TOTAL TUE	BE LENGT	гнѕ				MA	NIFOLDS AND RISEF	RS	
Equal products	by Re	ehau			1/2"	456	Feet	3/4"	0	Feet		SUPPLY a	and RETUR	:N	MANIFOLD	ACCESS.	REMARKS
or Mr. PEX are	accep	otable.			5/8"	4,192	Feet	1"	0	Feet	I.D.	GPM	SIZE	LOOPS	LOCATION		
											1	8.5	1 -1/4"	6	Single Bay	1,2,3,4	CV
OOP ACCES	SORIE	ES & REM	MARKS:		MANIFO	LD ACCE	SSORIE	S & REMAI	RKS:		2	6.4	1"	4		1,2,3,4	CV
L = Valved Lo	oop (co	ontrol valv	e).		1. Valve	ed Return	manifold	with drain a	nd vent.		3	2.9	3/4"	2	Wash Bay	1,2,3,4	CV
PL = Pumped l	Loop.				2. Valvle	ess Suppl	y manifolo	d with drain	and vent.								
T = Counterfl	ow Tu	be Layout			3. Balan	ncing valve	on retur	n riser.									
ST = Serpentin	ne Tub	e Layout.			4. Ball v	alves on t	he supply	and return	risers.			17.8					

MARK	MANUFACT.	LOCATION	SERVING	MIN.	CIR	CULATIN	IG FLUID	(IN-FLOC	R)	PLATE		SOURCE	FLUID (B	OILER)		ACCESSORIES/	REMARKS
PHX-	MODEL NO.			MBH	FLUID	GPM	LWT	EWT	FT HD	AREA	FLUID	GPM	EWT	LWT	FT HD	OPTIONS	
										S.F.							
1	BP410-30	Mech 115B	In-Floor	200.0	30% PG	25	120	103	18.96	7.9	Water	15	160	133	7.5	1, 2, 3	A, B
Based on I	products by XYLEM	1.		'	'												#N/
See the sp	ecifications for deta	ailed product and ins	stallation requirement	is.													8/26/2020 10:5
ACCESSO	ORIES/OPTIONS:								REMARK	S:							
1. 316L S	S plates, Copper B	razing Material.							A. Opera	ting Weigh	t 14.85 lbs,	12.2"H x 4	.4"W x 4.2	22"D.			

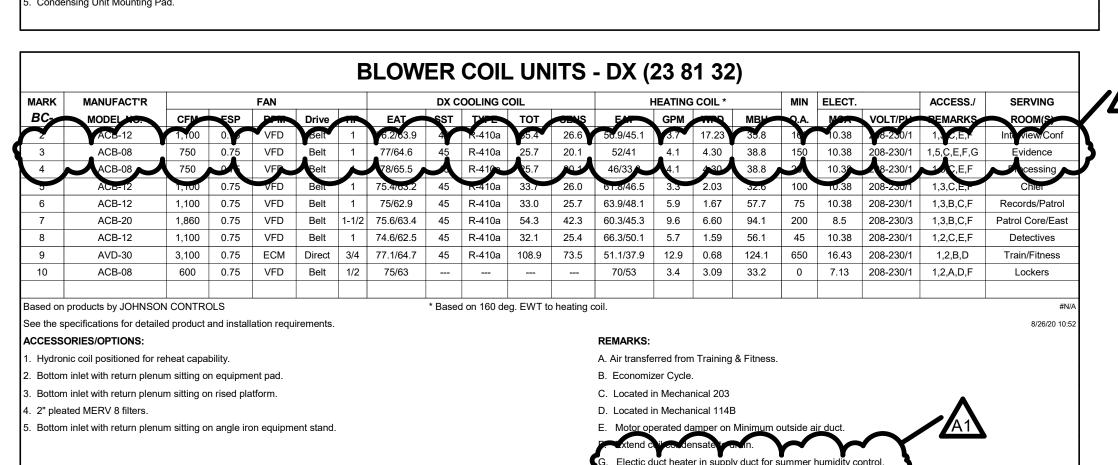
		SERVING	TOTAL	O.A.T.	STEPS/	NO.	REFRIG	MIN.	MIN.		EL	ECT.		ACCESSORIES/	
MARK	MODEL No.	SYSTEM	MBH *	TEMP.	SPEEDS	СОМР	TYPE	EER	SEER	KW	MCA	MOCP	VOLT/PH	OPTIONS	REMARKS
CU-1	VCE36B21H	VAH-1	35.0	95	1	1	R-410a	12.75	15.25		18.9	30	208-220/1	1 thru 8	A, B, G
CO-2	YCE36L4TH	BC-2	35.8	95		1	R-410a	12.75	15.2	~	6.9	30	268-230/1	1 thru 8	A B, G
CU-3	YCE24B21H	BC-3	24.0	95	1	1	R-410a	12.75	15.25		11.6	20	208-230/1	1 thru 8	A D, G
CU-4	YOTO SIH	вс.	24.0	95		~	R-4100	12.75	N5.63		1.6		208-233.4	1 11000	1, D, G
CU-5	YCE36B21H	BC-5	35.8	95	1	1	R-410a	12.75	15.25		18.9	30	208-230/1	1 thru 8	A, B, G
CU-6	YCE36B21H	BC-6	35.8	95	1	1	R-410a	12.75	15.25		18.9	30	208-230/1	1 thru 8	A, B, G
CU-7	YCE60B21H	BC-7	57.5	95	1	1	R-410a	12.25	14.25		31.7	50	208-230/1	1 thru 8	A, E, G
CU-8	YCE36B21H	BC-8	35.8	95	1	1	R-410a	12.75	15.25		18.9	30	208-230/1	1 thru 8	A, B, G
CU-9	J10YCC00A2BAB5	BC-9	110.2	95	2	2	R-410a	11.20			41.4	50	208-230/3	1 thru 8	F, H, I
•	oducts by Johnson Controls. cifications for detailed product an	d installation requi	* ARI Net Coor	l Iling Capaci	ty.										8/26/2020
ACCESSOR	RIES/OPTIONS:	•			REMARKS	:									
1. Crankcas	se heater.				A. Unit mo	unted on e	quipment pac	s on roof	, see spe	ec Section :	23 62 13.				
2. Time dela	ay timer on compressor start.				B. 36"H x 2	29"W x 29"	D, Weight 18	D Ibs. A-V	Veighted	Sound Po	wer Level	76 dBA.			
3. Low amb	eint kit to allow operation down to	40 deg.			C. (not use	ed)									
4. Refrigera	nt line set.				D. 30"H x 2	29"W x 29"	D, Weight 15	5 lbs. A-V	Veighted	Sound Po	wer Level	74 dBA.			
5. Refrigera	nt service valves, high and low p	ressure switches.			E. 36"H x 3	38"W x 34"	D, Weight 20	5 lbs. A-V	Veighted	Sound Pov	wer Level	76 dBA.			
6. Condens	er coil hail guard.				F. System	IEER 12.9	, 50"H x 59"\	W x 32"D	, Weight	499 lbs.					
7. Separate	insulated compressor compartm	ent.			G. Route re	efrigerant o	circuit piping ι	p to roof	through	Roof Pena	tration Vau	ılt, see sp	ec Section 23	05 29.	
8. Disconne	ect.				H. Route re	efrigerant o	ircuit piping ι	p to roof	through I	Roof Pipe I	Portal, see	spec Sec	tion 23 05 29.		
					I. Unit mo	unted on no	on-penatratin	a roof eau	uipent su	pports, see	spec Sec	tion 23 05	29.		

	MANUFACTURER	BTUH		OUTD	OOR AIR S	IDE			EXHA	UST AIR SII	DE		FIXED CORE	UNIT E	LECTRICAL	ACCESS/	
MARK	MODEL NO.	SAVED	CORE 8	& FAN		SUM.	WIN.	CORE	& FAN		SUM.	WIN.	EFFECTIVENESS	AMPS	VOLT/PH	OPTIONS	REMARK
	ECV-10H-VG-P	M	900	CFM	OA DB	92.1	-12.3	900	CFM	EA DB	86.0	19.0	SUMMER	MCA			
ERV-1			1354	RPM	OA WB	78	-13.2	1672	RPM	EA WB	71.2	19.0	51.6	12.2	208-230/1	1 - 9	A, B
	Reduced COOLING	28,755	3/4	HP	SA DB	81.3	41.1	3/4	HP	RA DB	75	72	WINTER	MOCP			
	Reduced HEATING	52,337	.75"	E.S.P.	SA RH	70.7	34.7	.5"	E.S.P.	RA WB	62.4	55.7	59.2	15			
Based on	products by GREENHECK.										•						#N
See the sp	pecifications for detailed pro	oduct and insta	allation requ	uirements													8/19/20 11:
COMMON	N ACCESSORIES/OPTION	S:							REMAR	KS:							
Galvanize	ed steel housing, 1" foil face	d insulation.							A. Unit	weighs 437 l	_bs. UL-1	1812 Liste	ed, AHRI 1060 Certified.				
Polymer n	membrane energy recovery	core.							Unit	dimensions:	54.5" + 1	hoods lor	ng X 28.9" wide X 43.9" hi	igh + curb.			
Hinged ac	ccess doors.								Duc	t Arrangeme	nt: Bottor	n RA and	I SA, End OA and EA.				
Vari-Gree	en EC Motors.																
Two direc	t drive forward curved blowe	ers.							B. Roo	to be mount	ed on co	ncrete pa	ad at grade.				
Single poi	int power connection with 24	VAC control	transforme	r.													
Non Fuse	ed Disconnect.																
ACCESS	ORIES/OPTIONS:																
1. 2" MEF	RV 8 Supply and Exhaust ai	r filters.							6. Time	d defrost con	trol.						
2. OAI &	OAD Sensors								7. 0-10	VDC Speed	control.						
3. BACN	etIP Network Protocal								8. Low	Leakage Out	door Air	& Return	Air Dampers.				
4. Remot	te Display.								9. 24" F	Roof Curb.							
5 Dirty fil	Iter sensors.																

	MANUFACTURER	SERVING		FA	N		HEA	TING	M	ВН	GAS	%	ELECT.		ACCESSORIES/	
MARK	MODEL NO.		CFM	E.S.P.	SPEEDS	HP	E.A.T.	L.A.T.	IN	OUT	PRESS.	R.A.	MCA	VOLT/PH	OPTIONS	REMARKS
AHU-1	IGX-P120-H32-MG-Q	Garage 115	5300	1.25	VFD	5	-6	105	800	640	.5	18-100	24.8	208/3	1 thru 8	A, B
	n products by GREENHECK. specifications for detailed products	duct and installation re	quirements.				l									#N/. 7/13/20 6:4
ACCESS	ORIES/OPTIONS:						REMARK	(S:								
1. Unit C	Configuration: Recirculation.						A. MOCI	P 40 A.								
2. Mixing	g Box, Top Outdoor Air, End F	Return Air.					B. Unit V	Veight 2,22	29 lbs. 18	6.5" long	x 48.5" wide	x 48.8" hi	gh.			
3. Insula	ted Galvanized Double Wall,	Hinged Access.					C.									
4. Indoo	r Installation.															
5. VFD (Constant Volume, Direct-Drive	Mixed Flow Fan.							UNIT	ACOUST	ICS: Outd	oor Soun	d Power L	evel - dB, Oct	ive Band (Hz)	
	ess Steel Heat Exchanger, 10	0 year warranty.						63	125 2	250 50	0 1000	2000	4000	0 8000	dBA	
6. Stainle	,															

	MANUFACTURER'S	SERVING/		FAN		cc	OLING M	IBH	HE	ATING M	вн	CFM	El	LECT.	ACCESSORIES/	REMARKS
MARK	MODEL NO.	LOCATION	CFM	E.S.P.	HP	M.A.T.	SENS	TOTAL	M.A.T.	IN	OUT	O.A.	MCA	VOLT/PH	OPTIONS	
RTU-1	J06ZJN12G2B5GCD2A2	Office	2,200	1.25	2	77/65	50.5	75.4	52	120	96	700	36.2	208/3	1, 2, 3, 7	A, B
Based on	products by Johnson Controls.															#
See the s	pecifications for detailed product a	and installation require	ments.													8/20/20 1
ACCESS	ORIES/OPTIONS:						СОММО	N FEATU	RES:							
1. High E	Efficiency, Two Stage Cooling, hot	gas by-pass.					R-410A r	efrigerant.	Meets IEC	CC 2015,	ASHRAE 9	90.1 and A	MCA 511.			
2. Alumii	nized steel, two stage gas heat.						Dry bulb	low leak E	conomizer	with Eco	nomizer Fa	ault Detect	ion & Diag	gnostics.		
3. Baram	netric relief with hoods.						Unit mou	nted disco	nnect, sino	gle point p	ower conr	ection. Co	nvenience	e outlet, Powe	ered Separately.	
4. (not us	sed)						Hinged A	ccess Par	iels & 2" M	IERV 8 filt	ers					
5. (not us	sed)						BACnet (Communic	ations inte	rface.						
6. (not us	sed)						Supply a	ir smoke d	etector. Ur	nit mounte	d CO2 de	ector.				
7. Single	e wall unit cabinet, with foil faced in	nsulation.					14" Roof	Curb for F	TU-1							
							Belt drive	en VAV su	oply fan wi	th VFD.						
							REMAR	KS:								
							A. IEER	rated in ac	cordance v	with AHRI	Standard	340/360.				
							B 118F	FR/13 9 II	FR 1225	I hs 89"I	x 50"\W a	t curb x 51	"H MOCE	² 45 amps, 8	5 dB(A)	

			WALL MOUNTED	EVAPORATO	OR SECTION					CONDE	NSING UN	IT (AC)			
MARK		MANUFACTURER'S	CFM	COOLING	HEATING I	MBH **	ELECTR	RICAL	MARK	MANUFACTURER'S	SEER	ELECTRI	CAL	ACCESS./	REMARKS
DSS-	SERVING	MODEL NO.	LOW-MED-HI	BTUH*	HEAT PUMP	ELECT.	VOLT/PH	WATTS	DSS-	MODEL NO.		VOLT/PH	MCA	OPTIONS	
1	IT/Strg 091	AC024MNADCH/AA	410 - 477 - 551	24,000	N/A	N/A	208/230/1	27	1AC	AC024MXSCCC/AA	18.3	208/230/1	16.0	1,2,3,4,5	A, B, C
Based on	products by SAI	 MSUNG.			* BASED ON 80/	 /67 EAT, 95 (DAT	** BASED	ON 47 DEC	G. OAT					#N/.
See the sp	ecifications for	detailed product and install	lation requirements.												8/19/20 11:3
ACCESSO	ORIES/OPTION	S:					REMARKS:								
1. Backlit,	, wall-mounted, v	wireless remote controller.					A. R410A Ref	frigerant, Lo	w ambient o	cooling to -40 deg.					
2. BACne	t Interface.						B. Indoor unit	32.2 lbs, 50).5"L x 11.5	"D x12"H & outdoor unit 11	14.6 lbs, 31	.5"H x 36.5"W	x14.5"D.		
3. Built-in	condensate pur	mp.					C. 7,000 Btuh	Minimum c	apacity, In	door unit 35-39-43 dBA, ou	utdoor unit	50 dBA.			
4. Hail Gu	ıard.														
5 Conder	nsing Unit Moun	iting Pad.													



SYSTEM	DUCTWORK INVOLVED	INSULATION				REMARKS
No.		TYPE	THICKNESS	DENSITY pcf	INSTALLED "R"	
	Return Air in ceiling Plenum	None	None	None		
	Supply and Return to Unit (Fan discharge and Suction)	Elastomeric Liner	1"		4.0	First 10 feet of straight duct up to and including first elbov
Blower Coils	Outside Air	Fiberglass Board	2"	3	8.7	
	Relief Air	Fiberglass Batt Wrap	1 1/2"	1	4.5	
	Supply air in Mechanical Room	Fiberglass Board	2"	3	8.7	
	Supply Air	Fiberglass Batt Wrap	1 1/2"	1	4.5	
	Transfer from Multi-Purpose	None	None	None		
	Outside Air	Fiberglass Board	2"	3	8.7	
	Return Air	None	None	None		
AHU-1	Relief Air	Fiberglass Batt Wrap	1 1/2"	1	4.5	
	Supply air in Mechanical Room	Fiberglass Board	2"	3	8.7	
	Supply Air in Garge	None	None	None		
VAH-1	Supply Air - Rectangular	Elastomeric Liner	1"		4.0	At unit discharge
	Supply Air - Round	None	None	None		
CE	Grille to Fan in conditioned space	None	None	None		
Fans	Discharge	Fiberglass Batt Wrap	1 1/2"	1	4.5	Within 10 feet of building discharge
ERV-1	Supply & Return drops off rooftop unit including first elbow	Acoustical Fiberglass Liner	1"	1.5	4.2	
	Supply Air	Fiberglass Batt Wrap	1 1/2"	1	4.5	
	Return Air in conditioned space	None	None	None		
RTU-1	Supply and Return to Unit (Fan discharge and Suction)	Elastomeric Liner	1"		4.0	First 10 feet of straight duct up to and including first elbov
	Supply and Return air Outdoors	Foil Faced Polyisocyanurate Foam Board	3"	2	18.0	Weatherproof Jacket
	Supply Air to Outlets	Acoustical Fiberglass Liner	1"	1.5	4.2	
Power Vents Roof	Horizontal Exhaust Air	None	None	None		
	Vertical Duct to Fan	Fiberglass Batt Wrap	1 1/2"	1	4.5	
Power Vents Wall	Horizontal Exhaust Air	None	None	None		
		Elastomeric Liner	1"		4.0	10'-0" from damper into building

				CII	RCULAT	ING FLUI	D	MAX.	NPSH	WTW %	IMP.		N	MOTOR			
MARK	MODEL No.	SYSTEM	TYPE	FLUID	GPM	FT HD	сР	HEAD **	NPSH	EFF	DIA.	ВНР	HP	RPM	VOLT/PH	ACCESS.	REMARKS
P-1	ecocirc XL	Garage	Wet Rotor	30% PG	25	25		34.9		42.3			.5	3602	208/1	1 thru 6	A, B, D
	XL 55-45	In-Floor	Circ	115													
P-2	ecocirc XL	Garage	Wet Rotor	Water	47	30		34.5		48.4			1	2544	208/3	1 thru 6	A, C
	XL 65-130	Mech Rm	Circ	180													
Based on p	products by BELL & GOS	SETT.						** Maximum	head in fe	et @ shuto	ff.						#
See the spe	ecifications for detailed p	roduct and insta	llation requirem	ents.													7/13/2020 6
ACCESSO	RIES:						REMARK	(S:									
1. ECM mo	otor with integrated VFD	and BACnet cor	nections.				A. Motor	selected as n	on-overloa	ding.							
2. Analog i	inputs 0-10v and 4-20mA	A standard.					B. Low to	emperature in-	floor radia	nt loop.							
3. Molded	insulation shell.						C. Servir	ng equipment l	ocated in I	Mechanical	Room 1	15B.					
4. Differen	tial Pressure Gauge.						D. Altern	ate Bid.									
5 Provido	non-slam check valve a	nd isolation valve	2 C														

See the specifications for detailed product and installation requirements.

	MANUFACTURER'S	SERVING/		TOT.		INLET	CONTROL/	F	AN	EL	ECT.	ACCESSORIES/	
MARK	MODEL NO.	LOCATION	CFM	S.P.	TYPE	SONES	INTERLOCK	RPM	DRIVE	WATTS	VOLT/PH	OPTIONS	REMARKS
CE-1	CSP-A125	Toilet 104B	95	0.375	Cabinet	1.2	BC-5	1100	Direct	20	115/1	1,2,3,4,5,6	A, C
CE-2	CSP-A250	IT 104A	200	0.375	Cabinet	2.5	BC-5	1000	Direct	60	115/1	1,2,3,4,5	B, C, D
See the sp	products by GREENHECK ecifications for detailed pro		n requiremen	its.			REMARKS: A. 17 Lbs.		<u> </u>				#N 7/13/20 6:
See the sp	ecifications for detailed pro	oduct and installation	n requiremen	uts.			A. 17 Lbs.						
See the sp ACCESSO 1. Integral	ecifications for detailed pro PRIES/OPTIONS: Plug-In Disconnect & Back	oduct and installation	n requiremen	its.			A. 17 Lbs. B. 24 Lbs.	rough Roof	Hood RH-1				
See the sp ACCESSO 1. Integral 2. Rubber	ecifications for detailed pro PRIES/OPTIONS: Plug-In Disconnect & Back Isolators.	oduct and installation	n requiremen	its.			A. 17 Lbs. B. 24 Lbs. C. Ducted to exterior the	ŭ	Hood RH-1				
See the sp ACCESSO 1. Integral 2. Rubber 3. Galvani	ecifications for detailed pro PRIES/OPTIONS: Plug-In Disconnect & Back	oduct and installation	n requiremen	its.			A. 17 Lbs. B. 24 Lbs.	ŭ	Hood RH-1				

MARK	MANUFACTURER'S	SERVING	MOUNT	AREA		FAN PERFORM	ANCE			ELECT.		ACCESSORIES/	REMARKS
DF-	MODEL NO.	ROOM	HEIGHT	EACH	CFM	DIAMETER	RPM	SONES	WATTS	AMPS	VOLT/PH	OPTIONS	
1	48201	Multi-Purpose/Training 110	12'-6"	607	21,000	48"	315		86	0.85	115/1	1, 3	A, B
2	48201	Multi-Purpose/Training 110	12'-6"	607	21,000	48"	315		86	0.85	115/1	1, 3	A, B
3	36201	Fitness 113	8'-6"	427	12,500	36"	395		75	0.65	115/1	2, 3	A, B
See the sp	products by LEADING EDGI pecifications for detailed prod DRIES/OPTIONS:					REMARKS:							#N// 8/19/20 11:1
1. 24" Dov						A. Color: White	<u>,</u>						
	wnrod.					B. To be installed							

	MANUFACTURER'S	SERVING/	CFM	TOT.		OPENING		FAN		EL	ECT.	ACCESSORIES/	
MARK	MODEL NO.	LOCATION		S.P.	TYPE	SIZE	RPM	DIA.	DRIVE	H.P.	VOLT/PH	OPTIONS	REMARK
EF-1	CW-090-VG	112 & 112A	400	0.375	Cent. Wall	12.5" Sq	Variable	10.9"	Direct	VG-1/4	115/1	2,3,4	А
EF-2	CW-080-VG	113 & 113A	275	0.375	Cent. Wall	12.5" Sq	Variable	10.9"	Direct	VG-1/4	115/1	2,3,4	В
EF-3	G-090-VG	Garage 115	350	0.375	Cent. Roof	12.5" Sq	Variable	10.9"	Direct	VG-1/4	115/1	1,2,3,4	С
EF-4	G-183-VG	Garage 115	3,500	0.625	Cent. Roof	20.5" Sq	Variable	20.5"	Direct	VG-2	208/1	1,2,3,4	D
EF-5	G-070-VG	Break Rm 110	200	0.375	Cent. Roof	10.5" Sq	Variable	8.1"	Direct	VG-1/15	115/1	1,2,3,4,7	Е
EF-6	CW-070-VG	Process 109	200	0.375	Cent.Wall	10.5" Sq	Variable	8.1"	Direct	VG-1/15	115/1	2,3,4,7	F
EF-7	CW-080-VG	Evidence 108	250	0.5	Cent.Wall	12.5" Sq	Variable	10.9"	Direct	VG-1/10	115/1	2,3,4,7	G
EF-8	CW-131-VG	Office 205	1,960	0.5	Cent.Wall	14.5" Sq	Variable	13.1"	Direct	VG-3/4	208/1	2,3,4	Н
EF-9	CUE-099-B	Sec. Stor. 115E	500	0.375	Cent. Roof	14.5" Sq	1140	11.2"	Direct	EXP 1/6	115/1	1,2,5,6,7	I
 Vari-Gr Gravity Aluming EXP mg 	nect switch. reen speed control for balan backdraft damper. um Rub Ring, Spark B cons otor enclosure.	·				D. Fan speed 1 Approximate E. Fan speed 1 F. Fan speed 1	1076 RPM, In ly 133 lbs. In 595 RPM, In 642 RPM, In	terlock wi let dBA 66 terlock wi terlock wi	th AHU-1, C 6, duct size th BC-9. Ap th BC-4. Ap	carbon Mono 18" Sq. oproximately oproximately	xide & Nitrogen 43 lbs. Inlet dBA 25 lbs. Inlet dBA	A 54, duct size 10" Sq. Dioxide sensors. A 54, duct size 8" Sq. A 60, duct size 8" Sq.	
7. On/Oπ	wall switch with pilot light.					•	1625 RPM, In n AHU-1. Ap	iterlock wi proximate	th BC-6&7. ely 99 lbs. In	Approximate	ely 69 lbs. Inlet o	A 56, duct size 10" Sq. IBA 68, duct size 12" Sq.	

						RO	OF H	HOODS	(23	37 23)				
	MANUFACTURER'S		THR	ROAT		HOOD				VELOCI	ITY (FPM)	MAX		ACCESSORIES/	
MARK	MODEL NO.	SERVING	WID.	LEN.	WID.	LEN.	SF	APPL	CFM	HOOD	THROAT	P.D. "	CONSTR.	OPTIONS	REMARKS
RH-1	Fabra Hood - FGR	CE-1 & 2	8	18	18	36	3.50	EXHAUST	300	86	300	0.015	Aluminum	2,3,5	A, B, C
RH-2	Fabra Hood - FGR	BC-9	24	40	34	60	7.50	RELIEF	2,500	333	375	0.02	Aluminum	2,3,5	A, D
RH-3	Fabra Hood - FGI	AHU-1	36	36	65	60	18.08	INTAKE	5,300	293	589	0.05	Aluminum	1,3,4	A, E
Based on	products by GREENHECK.														#N/A
See the sp	ecifications for detailed pro	duct and install	ation requi	irements.											7/17/20 6:36
ACCESSO	RIES/OPTIONS:											REMARKS	:		
I. Extend	ed 12" base, Bird Screen.											A. Ducted.			
2. 5" base	, Bird Screen and 0.5" inter	nal insulation.										B. Approxi	mately 73 lbs.		
3. 18" Ro	of Curb.											C. Fans du	icted separately to	hood.	
1. Motoriz	ed damper in throat.											D. Approxi	mately 160 lbs.		
- 0 "	damper in throat.											E Approvi	mately 214 lbs.		



LA CROSSE, WISCONSIN PHONE: 608.784.1830 FAX: 608.782.5844 www.hsrassociates.com Consultant:

HSR Project Number: 8.20.2020

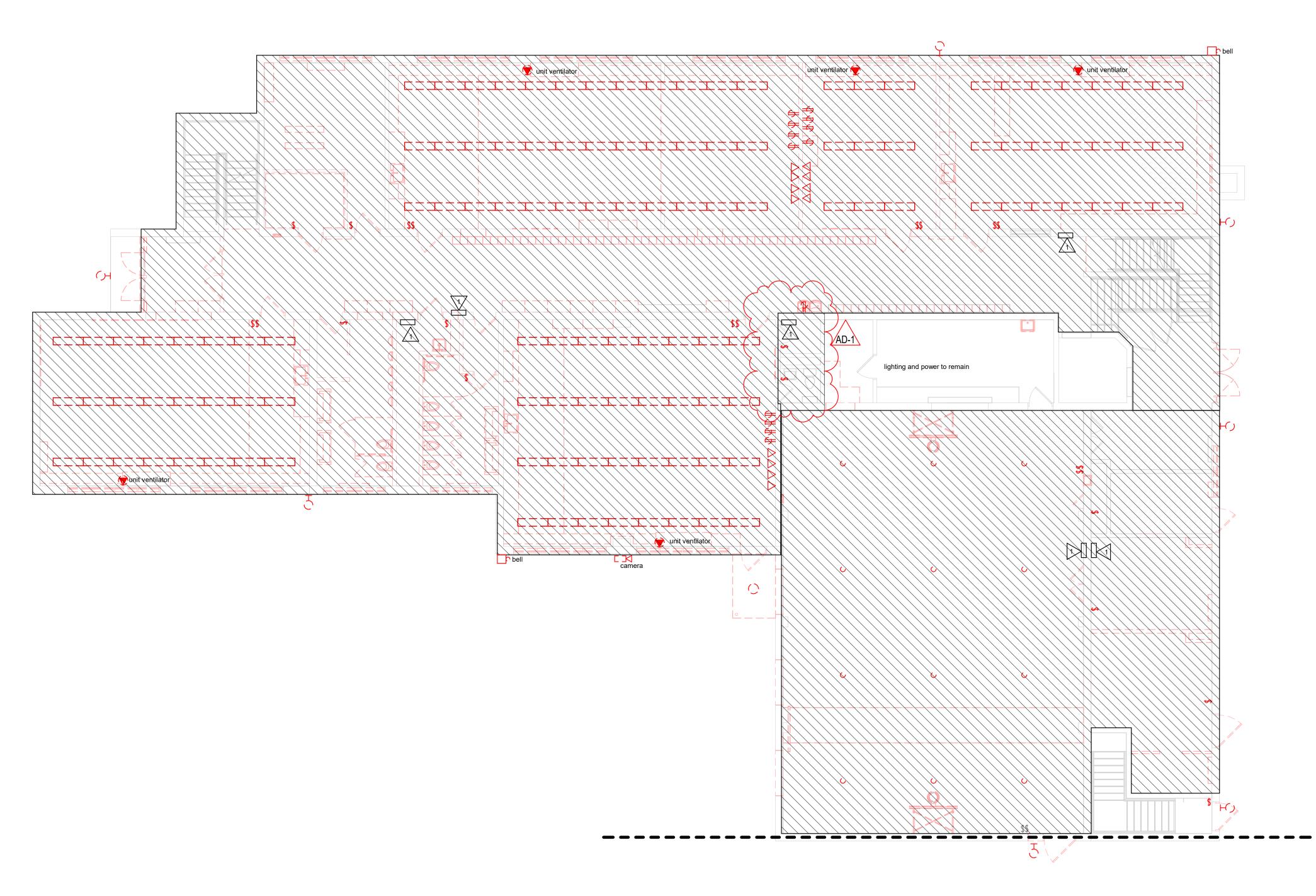
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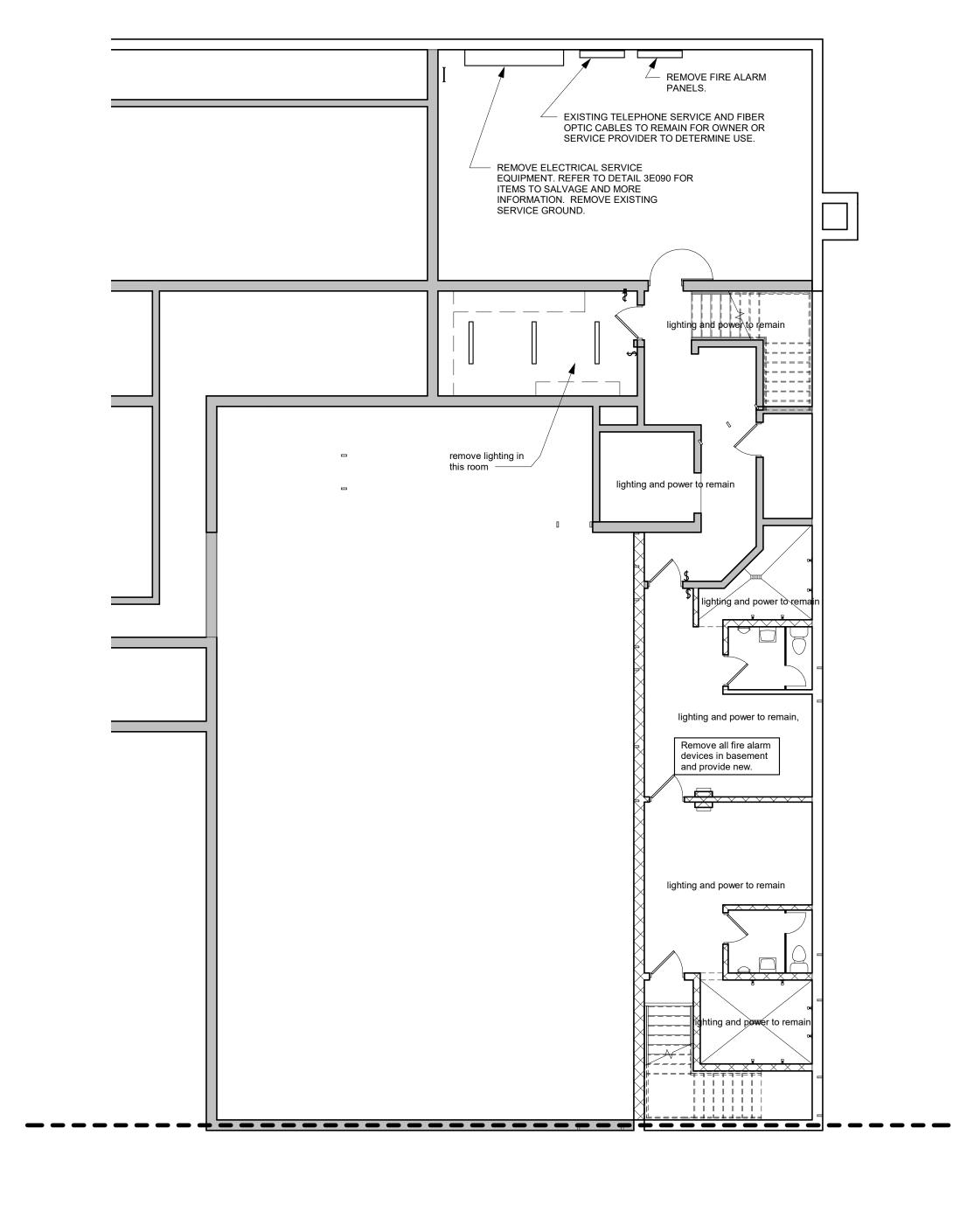
BID DOCUMENTS

Revisions: Description A1 Addendum #1 9/1/2020

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Graphic Scale:





FIRST FLOOR REMOVAL PLAN



2 BASEMENT REMOVAL PLAN

1/8" = 1'-0"



HSR Project Number:

Drawn By:

Key Plan:

AUGUST 2020

DOCUMENTS

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ARCHITECTURE

ENGINEERING

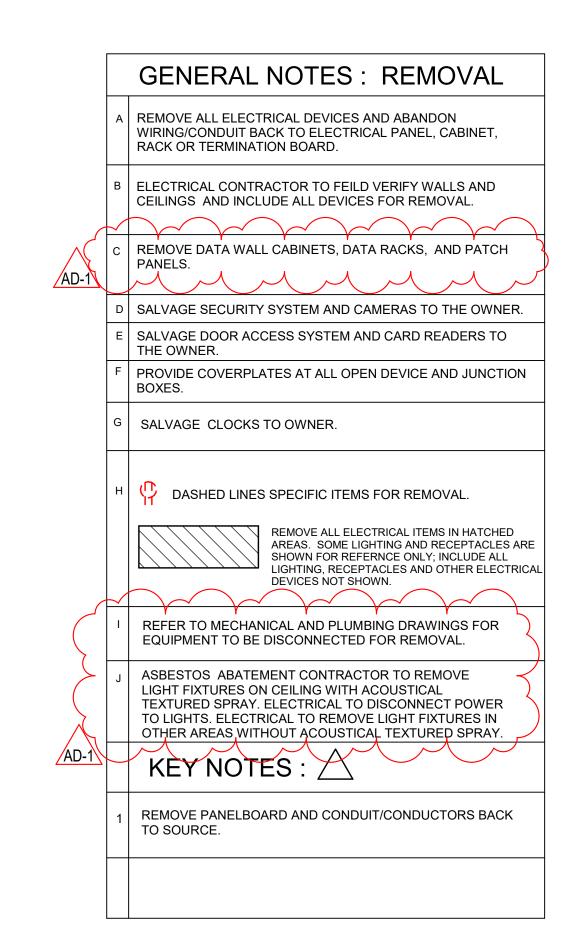
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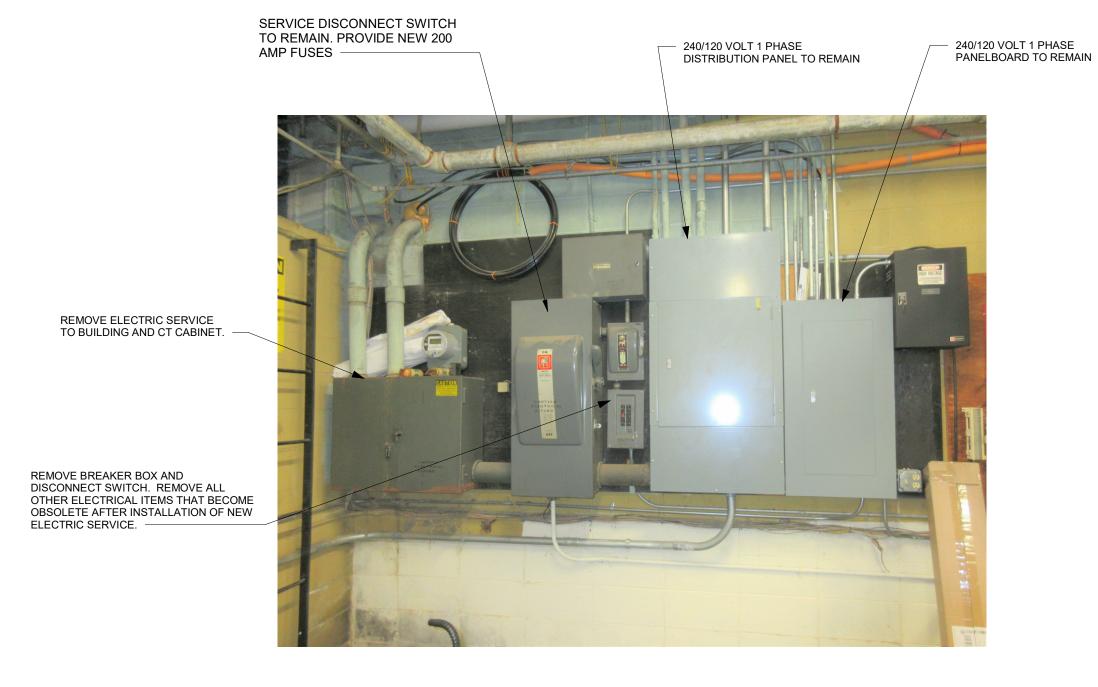
HSR ASSOCIATES INC. 100 MILWAUKEE STREET

LA CROSSE, WISCONSIN PHONE: 608.784.1830

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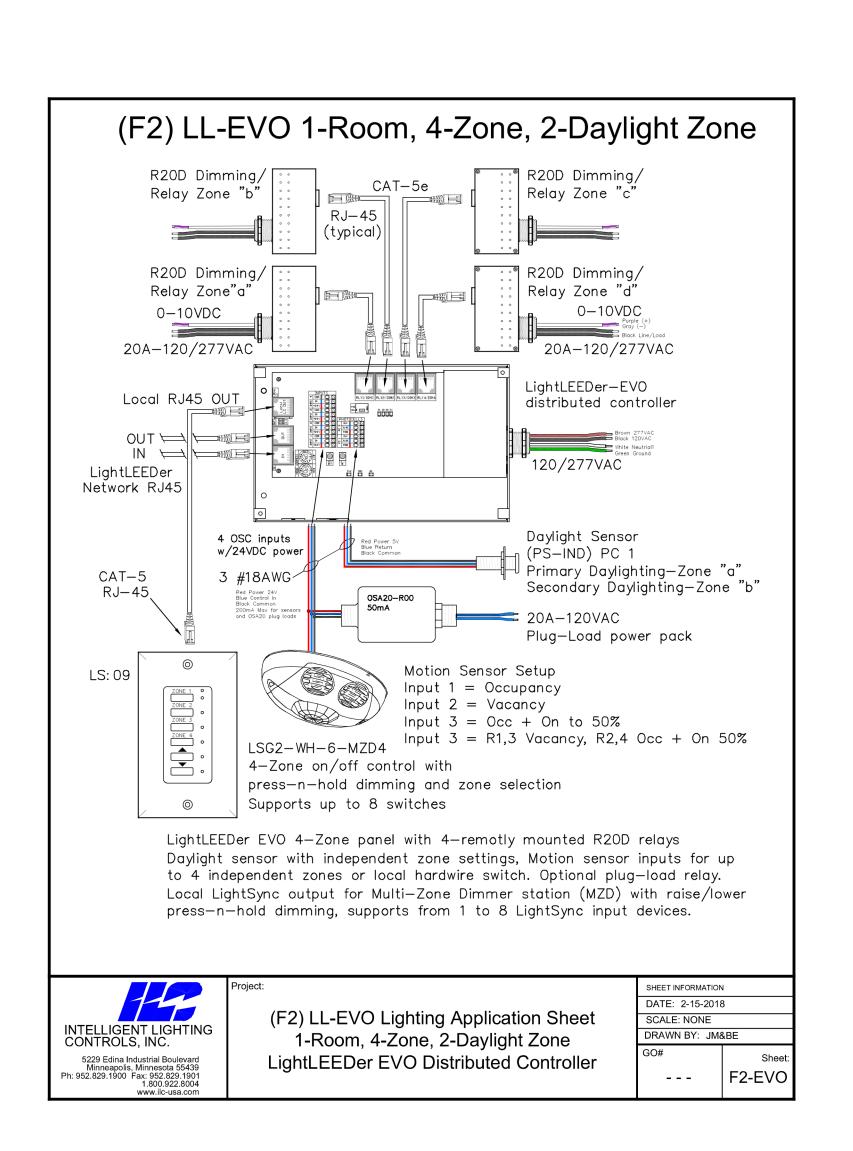
Consultant:





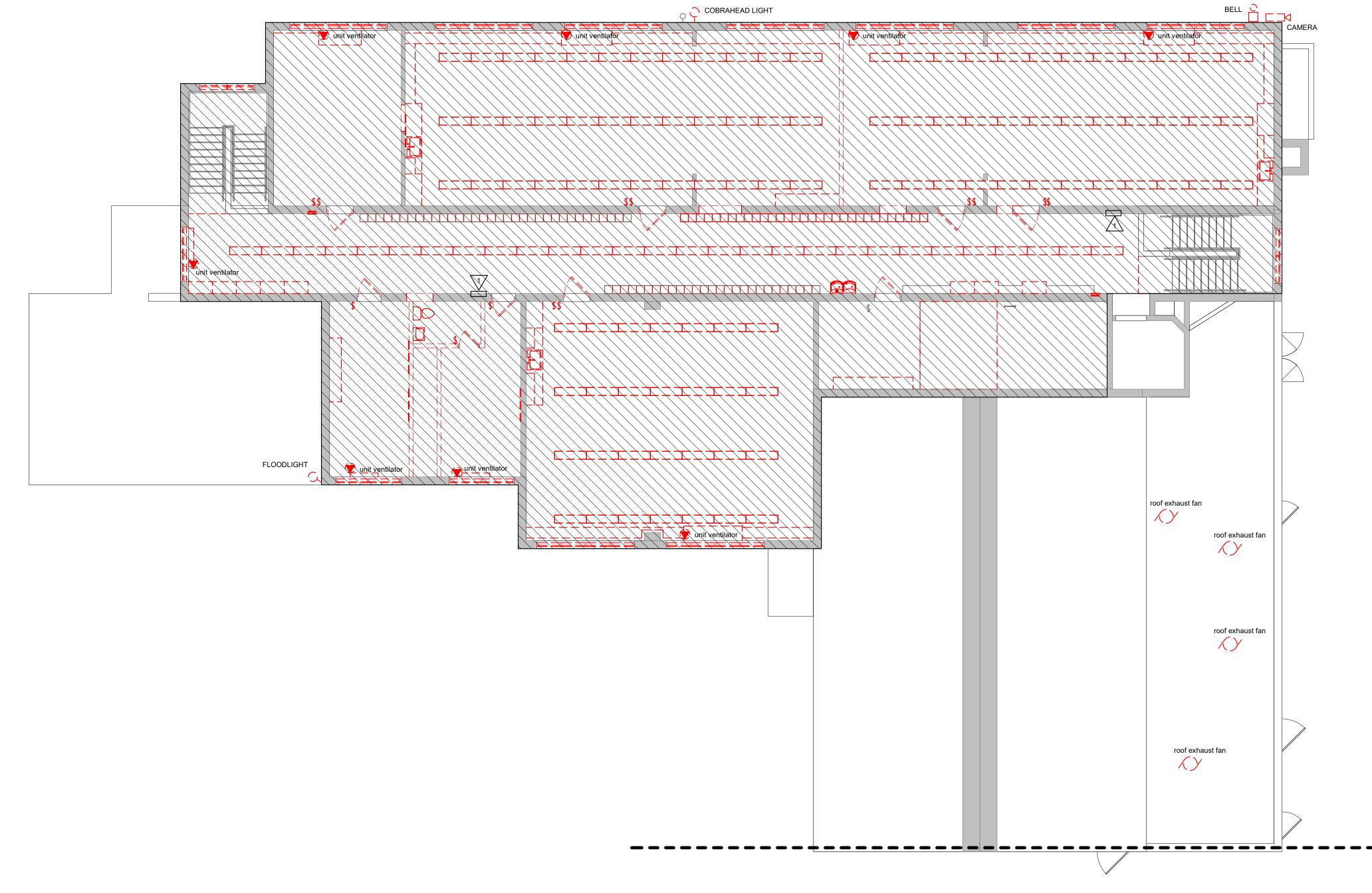
EXISTING ELECTRIC SERVICE

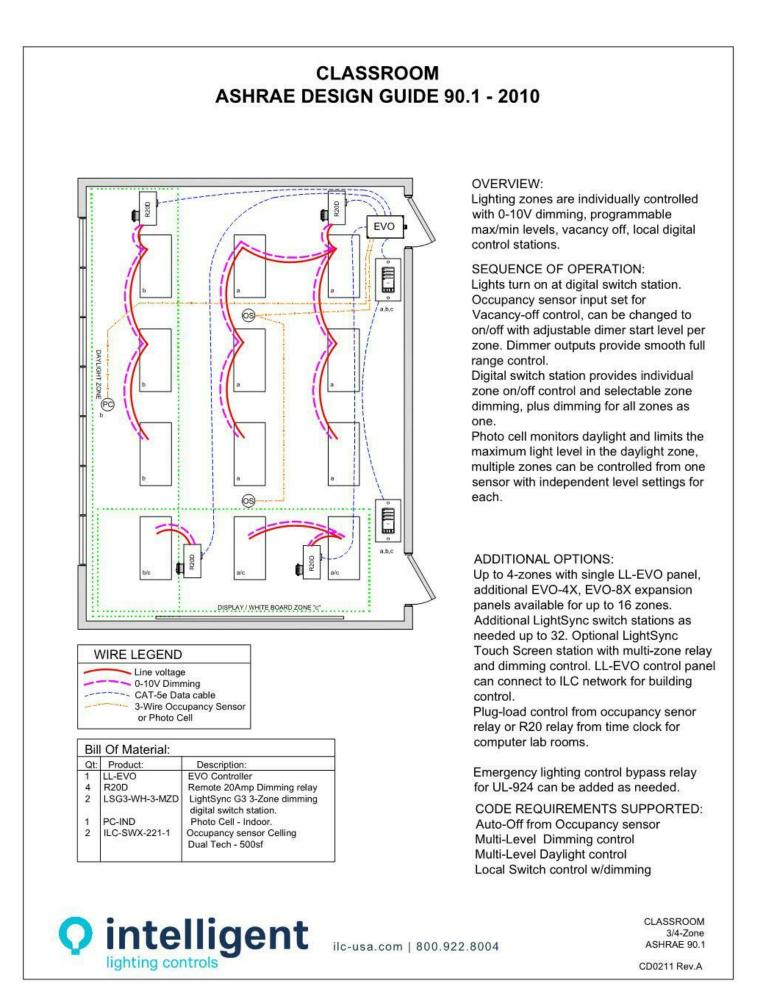
\bigcirc	LIGHTING FIXTURE - WALL BRACKET *		DISCONNECT SWITCH	AS	ALARM SOUNDER
0	LIGHTING FIXTURE DOWNLIGHT - SURFACE TYPE *	\boxtimes	MOTOR STARTER	EPS	EMERGENCY PUSH BUTTO
D	LIGHTING FIXTURE DOWNLIGHT- RECESSED *	\bigcirc	MOTOR CONNECTION	CR	CARD READER
0	LIGHTING FIXTURE(S) - EMERGENCY CIRCUIT		EQUIPMENT CONNECTION	RX	REQUEST TO EXIT
	LIGHTING FIXTURE (2'x2') - SURFACE TYPE *		PANELBOARD, TERMINAL CABINET	AR	ADMIN RELEASE BUTTON
7	LIGHTING FIXTURE (2'x2') - RECESSED *	2 🗬	TELEPHONE **	EL	ELECTRIC LOCK
	LIGHTING FIXTURE (2'x2') - EMERGENCY CIRCUIT	$_{2}^{2} \triangleleft _{(DATA)}^{(VOICE)}$	COMBINATION VOICE/DATA OUTLET **	DC	DOOR CONTACT
_	LIGHTING FIXTURE (2'x4') - SURFACE TYPE *	4 <	COMPUTER DATA OUTLET **	LD	LOCK DOWN BUTTON
\exists	LIGHTING FIXTURE (2'x4') - RECESSED *	F	FIRE ALARM MANUAL STATION		
	LIGHTING FIXTURE (2'x4') - EMERGENCY CIRCUIT	F	FIRE ALARM HORN/STROBE		
	LIGHTING FIXTURE - OPEN STRIP *	S	FIRE ALARM STROBE UNIT ONLY		
ì	EXIT SIGN	(S)	SMOKE DETECTOR		
]	ROOM CONTROLLER - LIGHTING	J	JUNCTION BOX OR PULL BOX		
D	DIMMABLE LIGHTING CONTROL RELAY	\bigcirc	TELEVISION OUTLET		
3	OCCUPANCY SENSOR *	\bigcirc	CLOCK		
3	VACANCY SENSOR *	(\$)	SPEAKER *		
	DAYLIGHT CONTROL	\bigcirc	VOLUME CONTROL		
- -	SWITCH - SINGLE POLE	(CI)	CALL-IN SWITCH		
	3 - 3-WAY SWITCH 4 - 4-WAY SWITCH	\ =	GROUND CONNECTION		
	OC - WALL SWITCH OCCUPANCY SENSOR* VS - WALL SWITCH VACANCY SENSOR*	_	LEG TO PANEL		
	D - DIMMER*		NOTE NUMBER (REMOVAL)		
-	STANDARD SINGLE RECEPTACLE *		NOTE NUMBER (REMODEL)		
=	STANDARD DUPLEX RECEPTACLE *	EX	EXISTING DEVICE .		
	"GFI" GROUND FAULT INTERRUPTING				
	"WP" WEATHERPROOF COVER	* TVDE & 0 N D 0 * 3	FED WITH LETTER WILLIAMSED, DEFEN TO COSCO	ICIOATIONO OD	COUEDINE C
	"WR" WEATHER RESISTANT	" TYPE AS INDICAT	FED WITH LETTER/NUMBER, REFER TO SPEC	IFICATIONS OR	SCHEDULES.
=	DOUBLE DUPLEX RECEPTACLE *		CABLE DROPS AS INDICATED WITH NUMBER DICATED ON DRAWINGS.	, REFER TO DR	AWINGS. HEIGHTS AND
		*** NUMBER REFE	RS TO LOW VOLTAGE LIGHTING RELAY.		

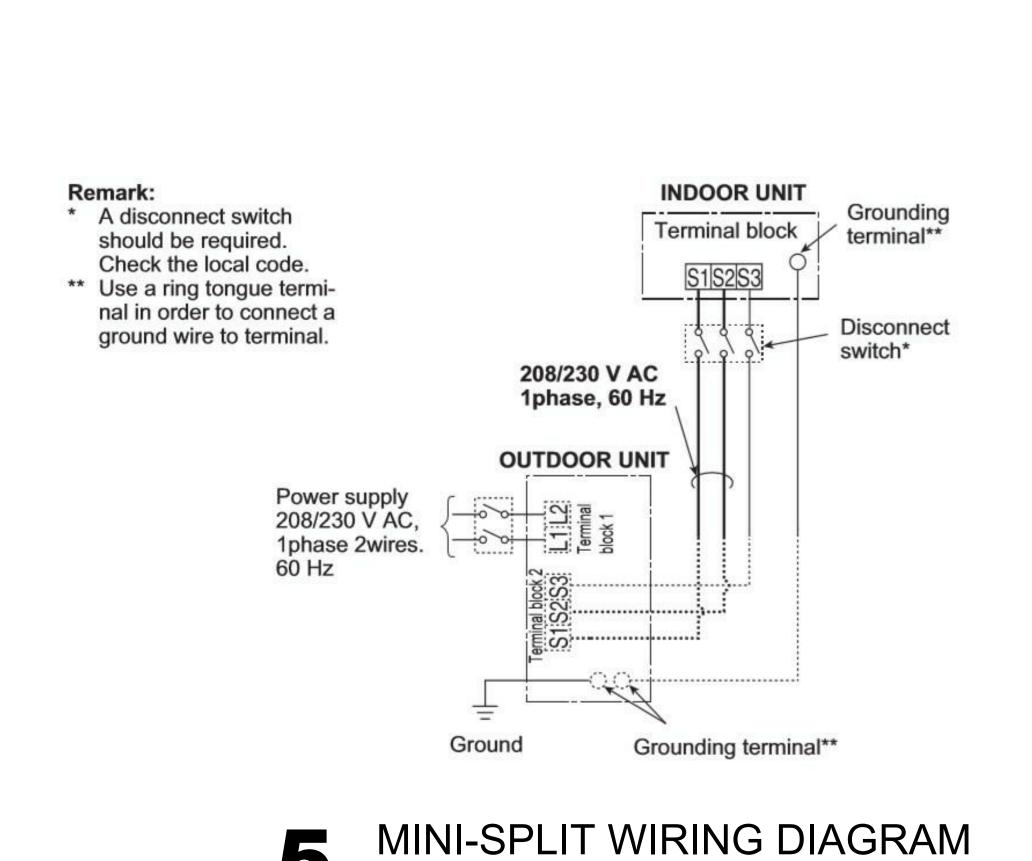


ROOM CONTROLLER 4 ZONE

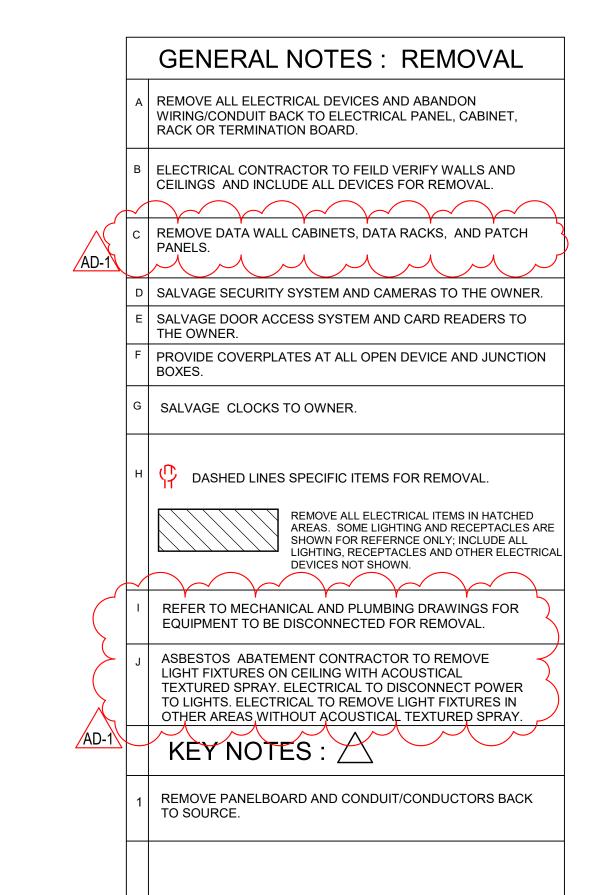


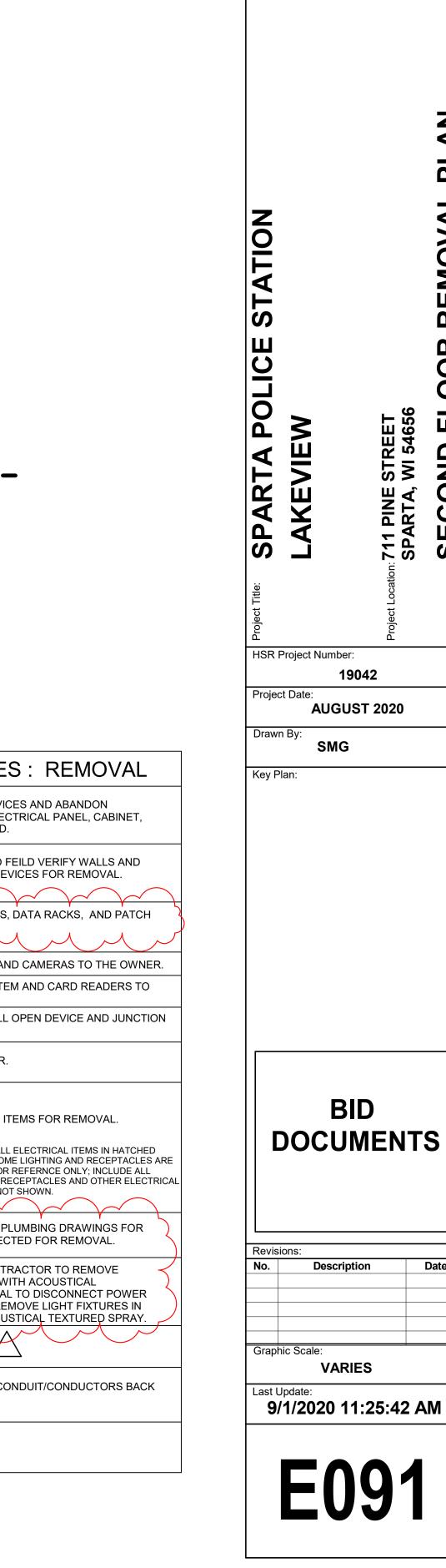






SECOND FLOOR REMOVAL





19042

AUGUST 2020

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Description

VARIES

ARCHITECTURE

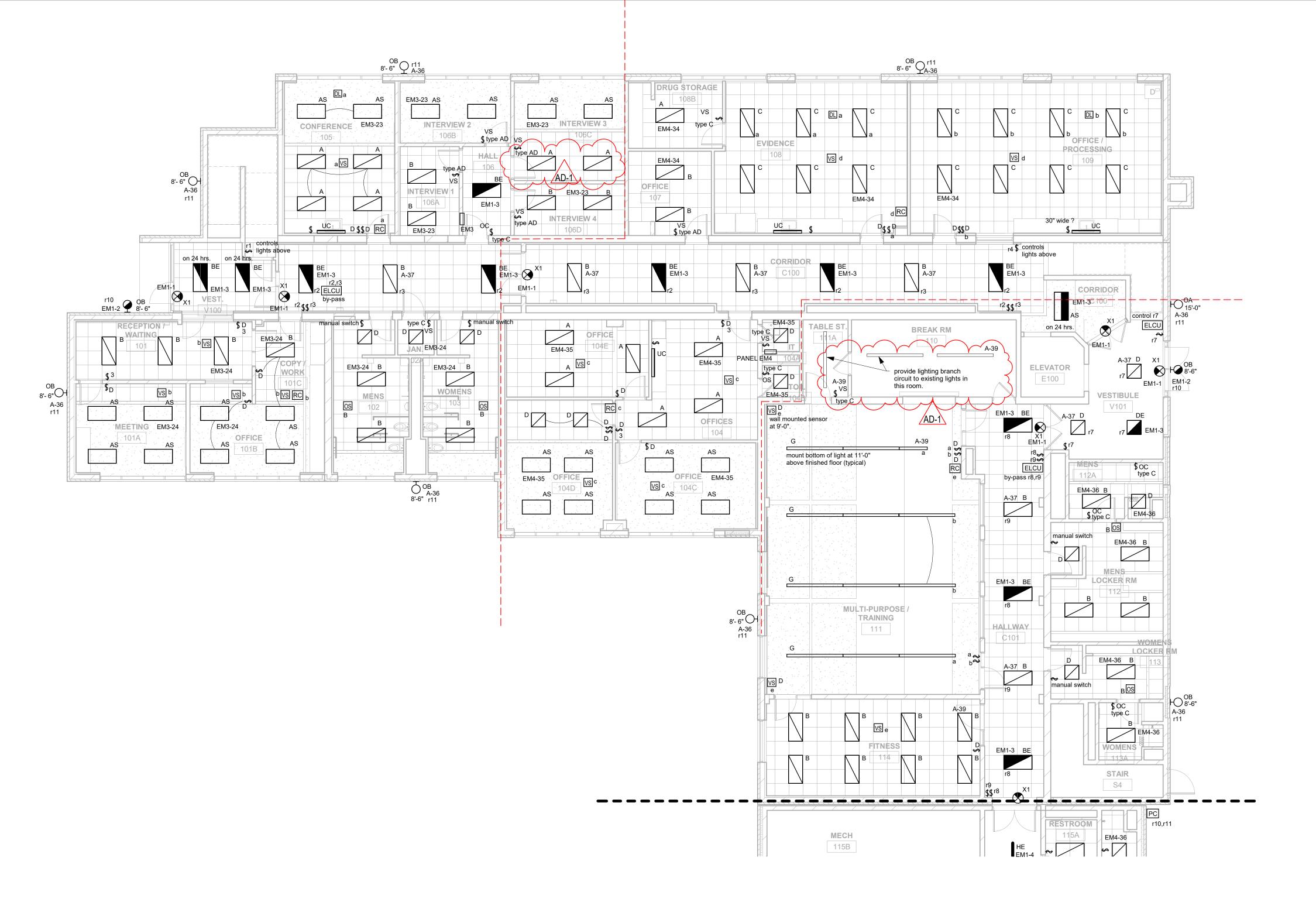
ENGINEERING

INTERIOR DESIGN

HSR ASSOCIATES INC

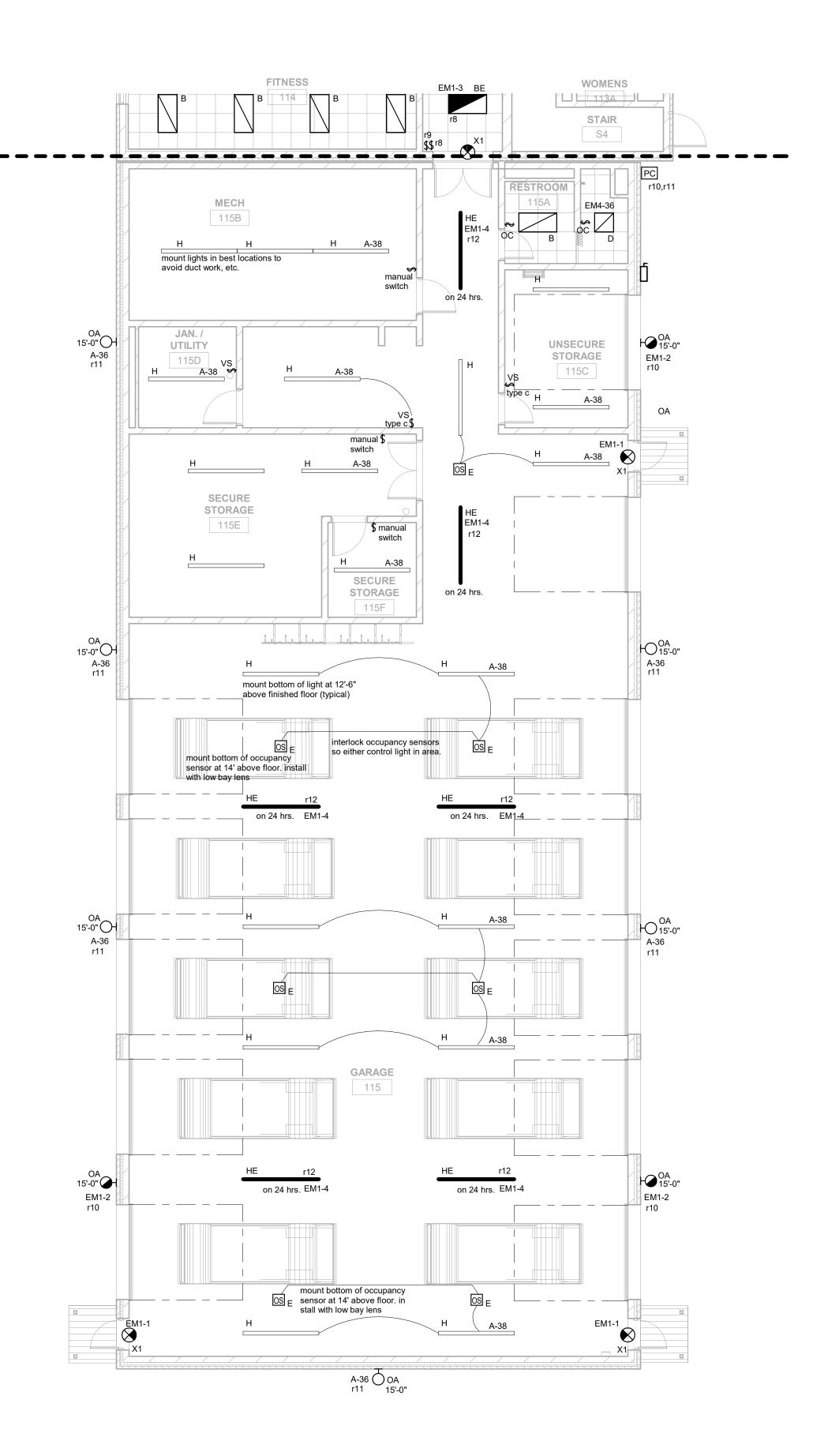
Consultant:

100 MILWAUKEE STREET LA CROSSE, WISCONSIN PHONE: 608.784.1830 FAX: 608.782.5844 www.hsrassociates.com



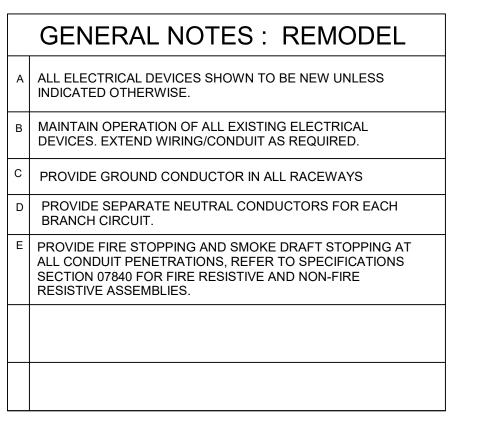
FIRST FLOOR LIGHTING - SEG A 1/8" = 1'-0"

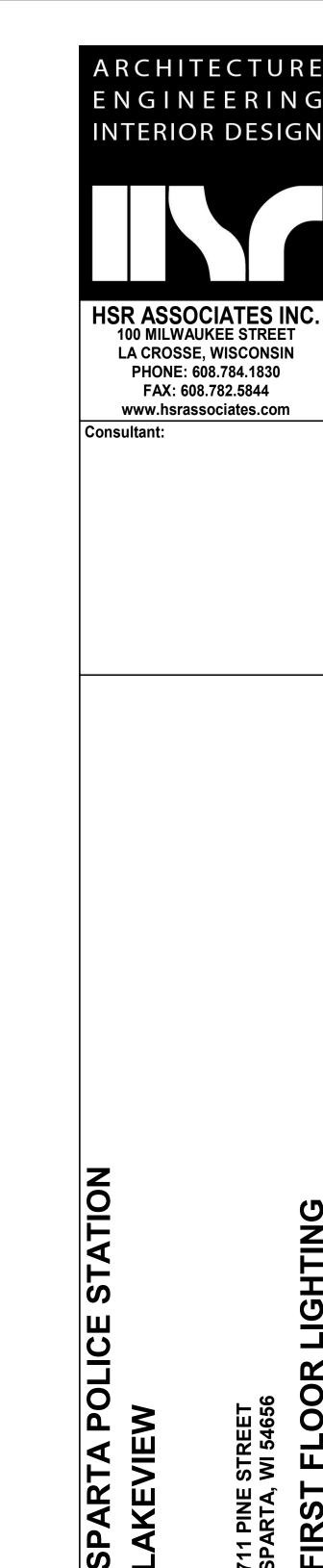
TYPE A AS B BE C D DE	MANUFACTURER DAYBRITE DAYBRITE DAYBRITE DAYBRITE DAYBRITE DAYBRITE	CATALOG NUMBER 2FZP38L840-4-DS-UNV-DIM 2FZP38L840-4-DS-UNV-DIM/FSK24 2FZP30L840-4-DS-UNV-DIM 2FZP30L840-4-DS-UNV-DIM	DESCRIPTION 2'X4' LED FLAT PANEL 3800 LU LED FLAT PANEL 3800 LU/SURFACE 2'X4' LED FLAT PANEL 3000 LU	UNIV. UNIV.	F	*	P	0	WATTS 29 29	COLOR TEMP. 4000K	1 1,4
AS B BE C D	DAYBRITE DAYBRITE DAYBRITE DAYBRITE DAYBRITE	2FZP38L840-4-DS-UNV-DIM/FSK24 2FZP30L840-4-DS-UNV-DIM	LED FLAT PANEL 3800 LU/SURFACE	UNIV.		*					
B BE C	DAYBRITE DAYBRITE DAYBRITE	2FZP30L840-4-DS-UNV-DIM				*			29	4000K	1,4
BE C D	DAYBRITE DAYBRITE		2'X4' LED FLAT PANEL 3000 LU	UNIV.		,					
C D	DAYBRITE	2FZP30L840-4-DS-UNV-DIM			*				23	4000K	1
D			2'X4' LED FLAT PANEL 3000 LU	UNIV.	*				23	4000K	1,3
		2FZP54L840-4-DS-UNV-DIM	2'X4' LED FLAT PANEL 5400 LU	UNIV.	*				42	4000K	1
DE	DAYBRITE	2FZP20L840-2-DS-UNV-DIM	2'X2' LED FLAT PANEL 2000 LU	UNIV.	*				16	4000K	2
	DAYBRITE	2FZP20L840-2-DS-UNV-DIM	2'X2' LED FLAT PANEL 2000 LU	UNIV.	*				16	4000K	2,3
F	LEDALITE	7406LAEQGXX7W	LINEAR DIRECT/INDIRECT LIGHT	UNIV.			*		28.5	4000K	5
G	LEDALITE	7406LACQDXX7W	LINEAR DIRECT/INDIRECT LIGHT	UNIV.			*	(39.2/4 ft.	4000K	6
Н	DAYBRITE	SFL8110L840-PP2-UNV-DIM	8' INDUSTRIAL LED	UNIV.		*		^(69	4000K	7
HE	DAYBRITE	SFL8110L840-PP2-UNV-DIM	8' INDUSTRIAL LED	UNIV.		*		AD-1	69	4000K	7,3
J	DAYBRITE	FSX440L840-UNV	4' SEALED STRIP LED	UNIV.		*			32	4000K	
OA	GARDCO	121-32L-530-NW-G4-3-UNV-BZ.	LED WALL SCONCE	UNIV.		*			52	4000K	8
OB	GARDCO	111L-16L-350 -NW -G3-3-UN V-B Z.	LED MINI WALL SCONCE	UNIV.		*	\langle		18	4900K	8
UC Y	Y Y Y NUVO LIGHTING	NUVO 63-203	UNDERCOUNTER LIGHT	UNIV.	Y A	*	Υ	Y	7 ,	3500K/4000	}
X1 X1	CHLORIDE	CLXARW	EXIT-LIGHT	UNIV.	\(\)				4	N/A	9



FIRST FLOOR LIGHTING -SEG B

1/8" = 1'-0"





BID DOCUMENTS

HSR Project Number:

Revisions:

No. Description Date

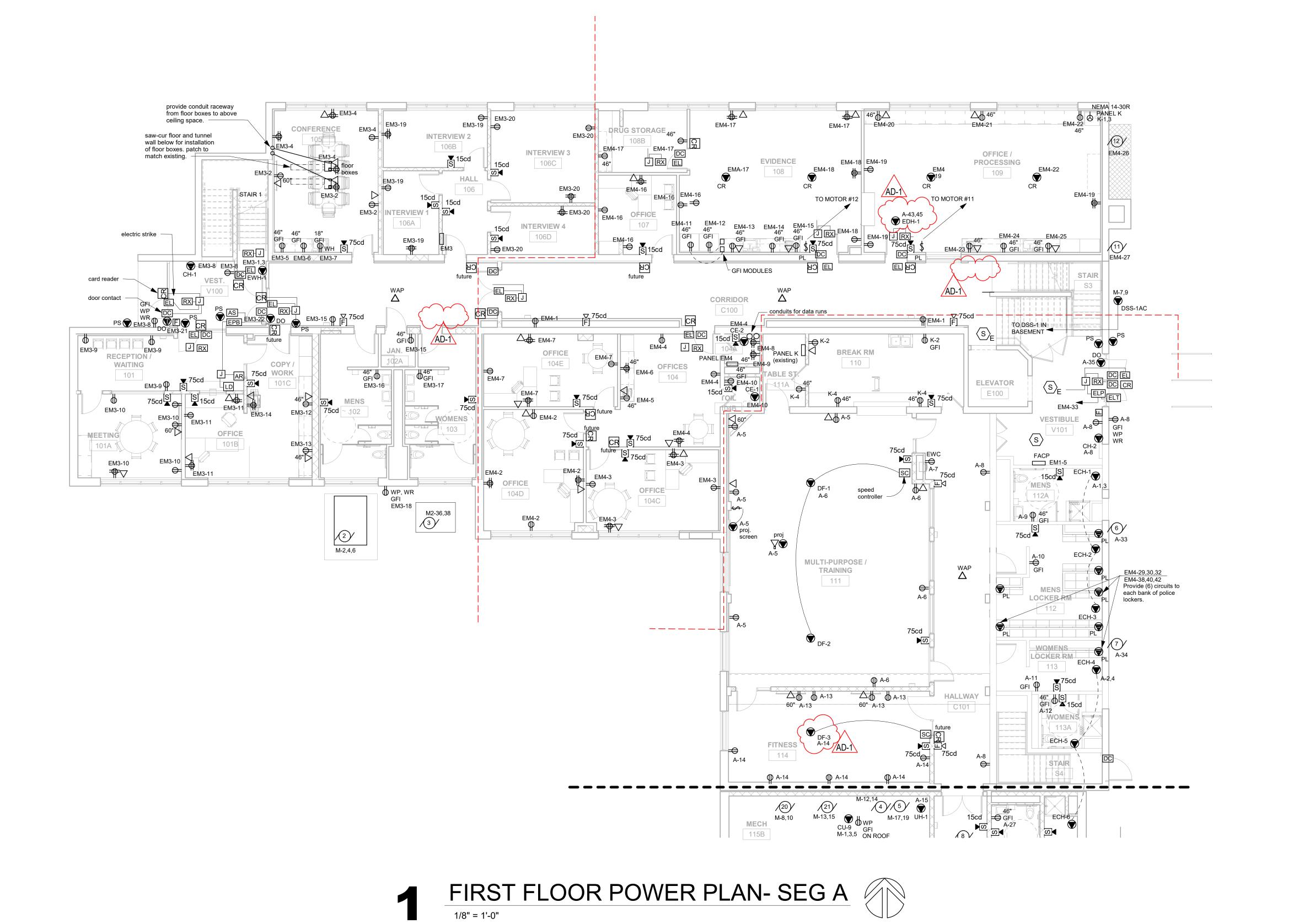
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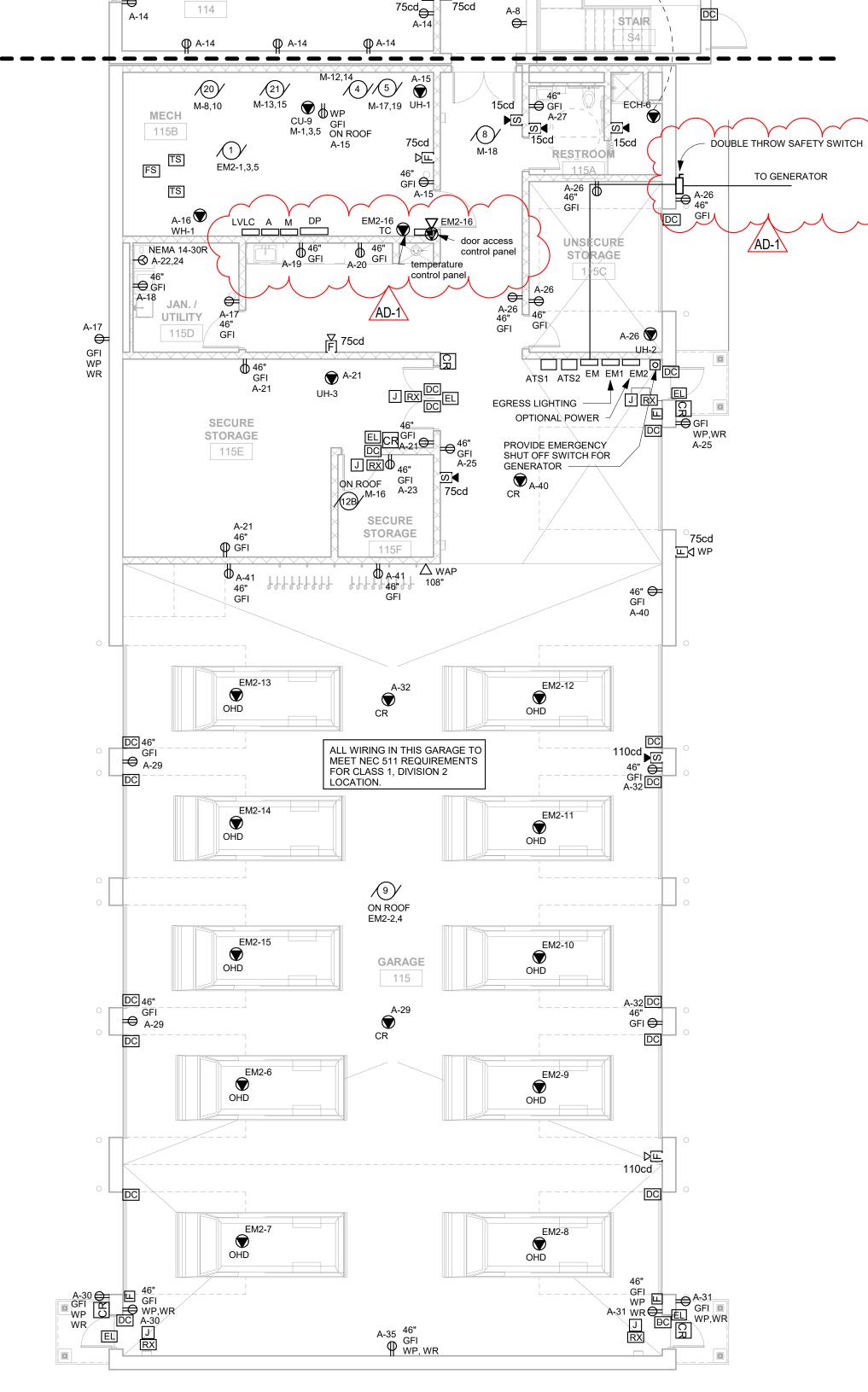
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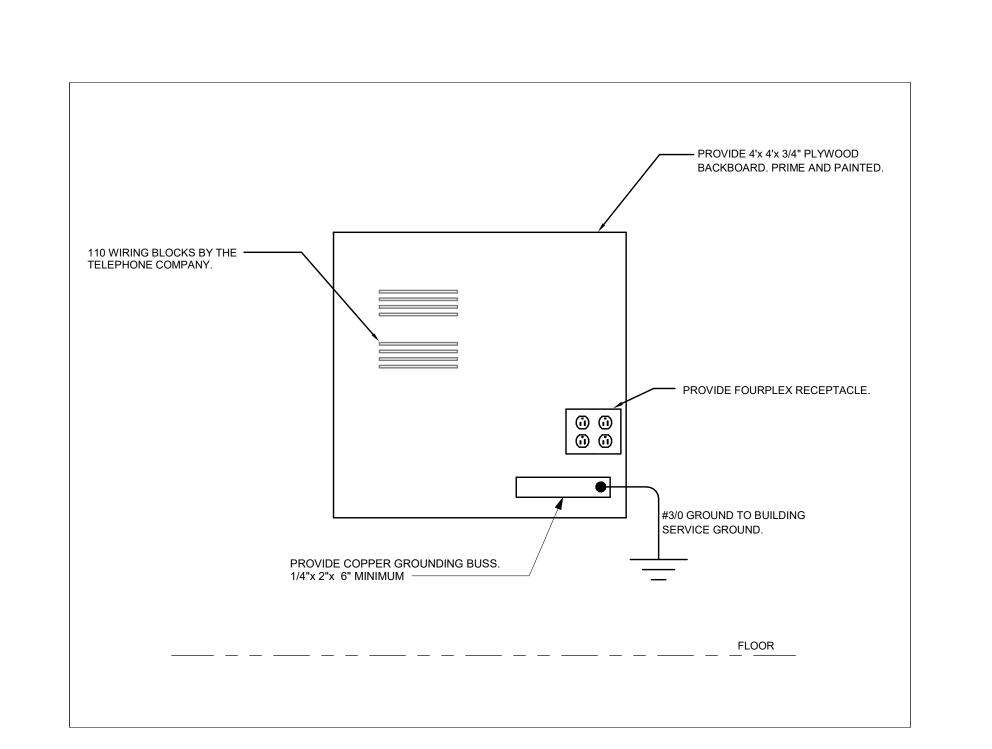
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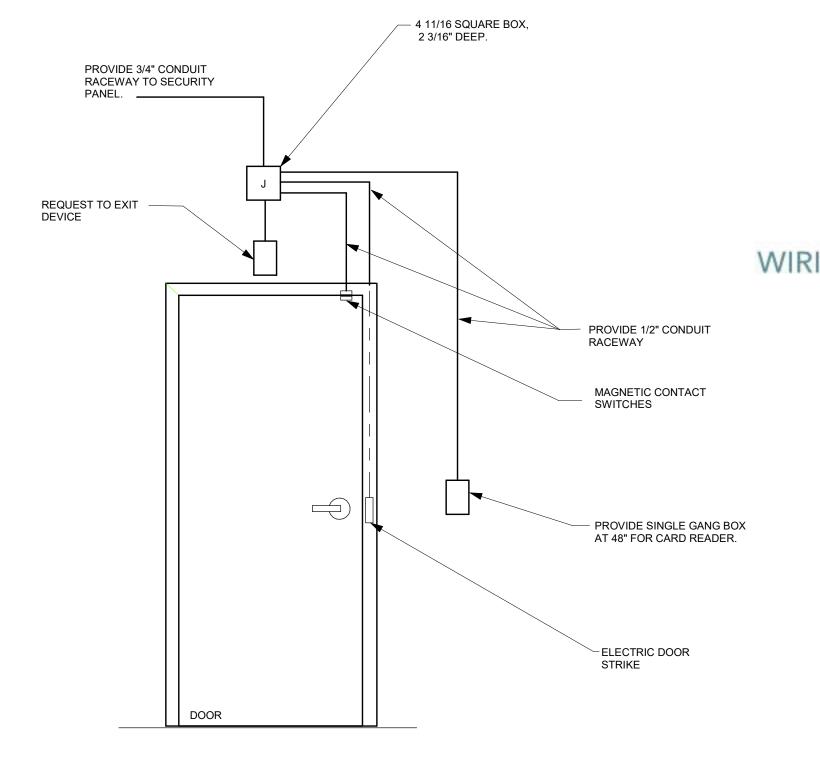
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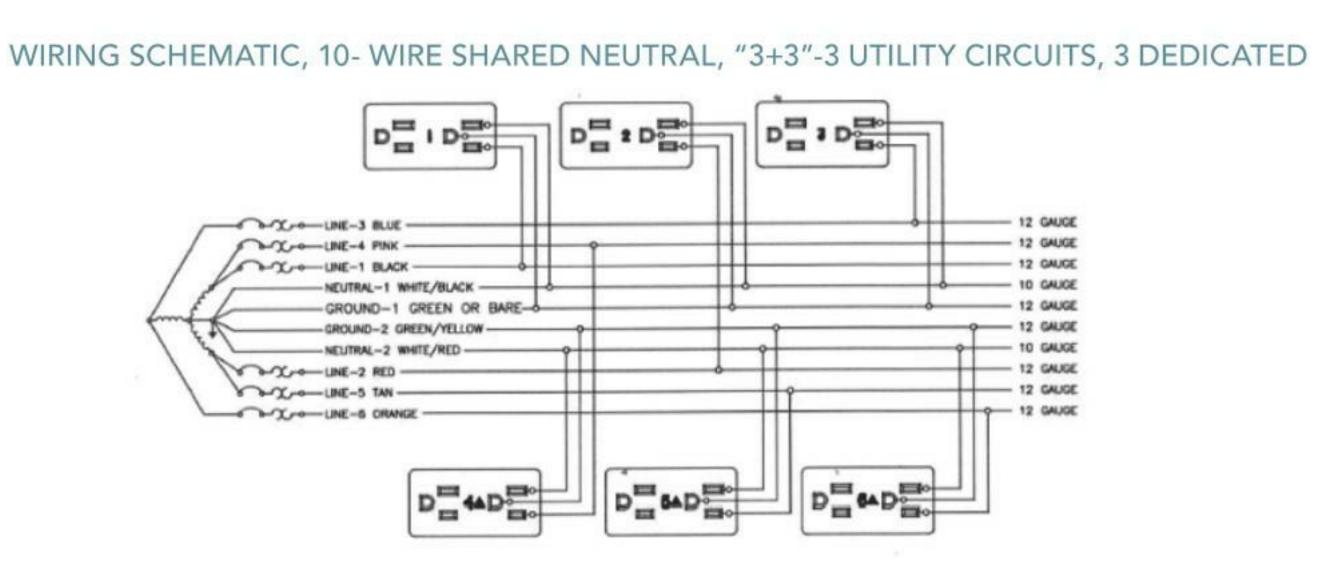


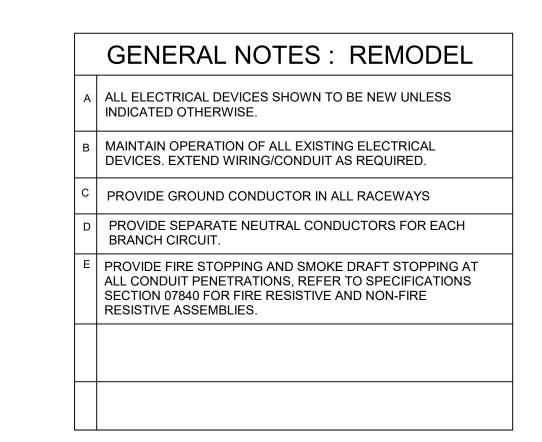












Door Access Raceways

NTS

POLICE LOCKER WIRING DIAGRAM

NTS

ENGINEERING INTERIOR DESIGN HSR ASSOCIATES INC.
100 MILWAUKEE STREET LA CROSSE, WISCONSIN PHONE: 608.784.1830 FAX: 608.782.5844 www.hsrassociates.com HSR Project Number: **AUGUST 2020** Key Plan:

> BID DOCUMENTS

Revisions:

No. Description Date

AD-1 AD-1 9/1/20

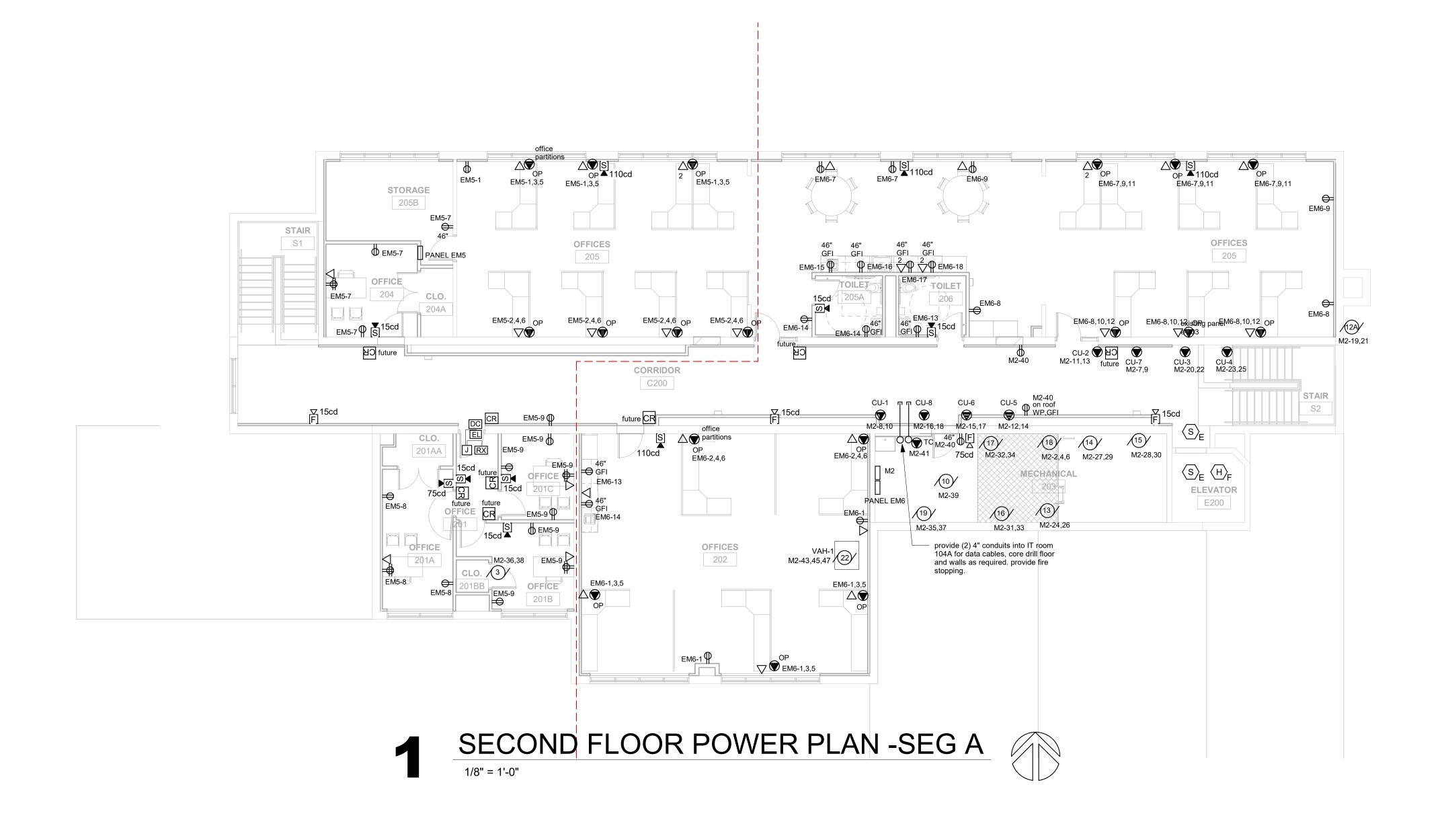
AD-2 Addendum no. 2 4/11/19

Graphic Scale:

VARIES

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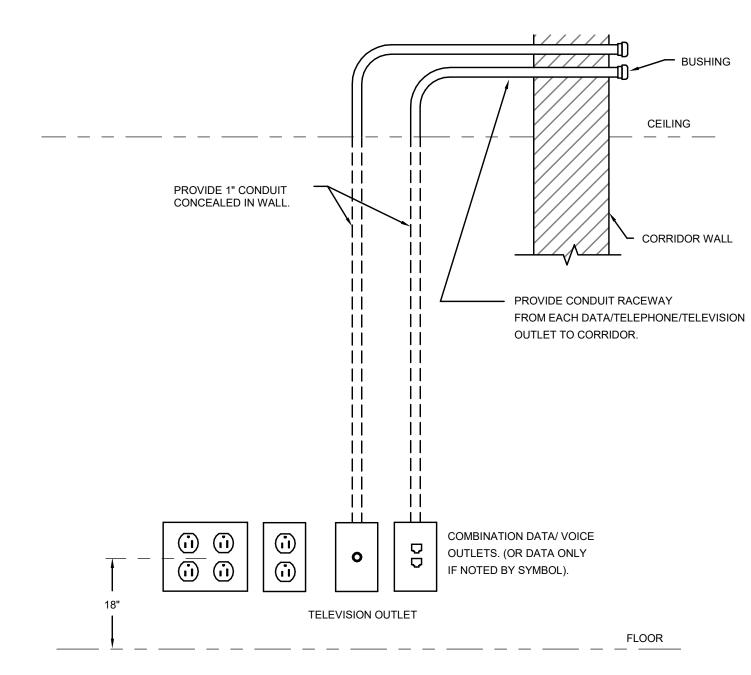


	GENERAL NOTES: REMODEL
А	ALL ELECTRICAL DEVICES SHOWN TO BE NEW UNLESS INDICATED OTHERWISE.
В	MAINTAIN OPERATION OF ALL EXISTING ELECTRICAL DEVICES. EXTEND WIRING/CONDUIT AS REQUIRED.
С	PROVIDE GROUND CONDUCTOR IN ALL RACEWAYS
D	PROVIDE SEPARATE NEUTRAL CONDUCTORS FOR EACH BRANCH CIRCUIT.
Ш	PROVIDE FIRE STOPPING AND SMOKE DRAFT STOPPING AT ALL CONDUIT PENETRATIONS, REFER TO SPECIFICATIONS SECTION 07840 FOR FIRE RESISTIVE AND NON-FIRE RESISTIVE ASSEMBLIES.

MOTOR UMBER	DESCRIPTION	HVAC/PLBG.	LOCATION	1	OTOR ATING		DISC	BY BY	СТ	ST	ARTE BY	R	1	TROL NG BY	WIRING	SIZE	
		EQUIP. NO.	ROOM NO.	HP	VOLT	РН	МЕСН	ELEC.	TYPE	МЕСН	ELEC	TYPE	MECH	ELEC.	COND.	GRD.	REMARKS
1	MAKE-UP AIR UNIT	AHU-1	MECH. 115B	24.8 MCA	208	3	Х		NF	х		VFD	х		3 #10	#10	
2	ROOF TOP UNIT	RTU-1	EXTERIOR	36.2 MCA	208	3	х		NF	х		VFD	х		3 #8	#10	
3	ENERGY RECOVERY VENTILATOR	ERV-1	ROOF 201BB	12.2 MCA	208	1	х		NF	х		VFD	х		2 #12	#12	
4	ECM HVAC PUMP	P-1	GARAGE 115	1 HP	208	1	х		NF	х		VFD	х		2 #12	#12	
5	ECM HVAC PUMP	P-2	MECH. 115B	2 HP	208	1	х		NF	х		VFD	х		2 #12	#12	
6	EXHAUST FAN	EF-1	MEN'S LOCKER 112	1/4 HP	120	1	х		NF	х			х		2 #12	#12	
7	EXHAUST FAN	EF-2	WOMEN'S LOCKER 113	1/4 HP	120	1	х		NF	Х			х		2 #12	#12	
8	EXHAUST FAN	EF-3	GARAGE 115	1/4 HP	120	1	х		NF	Х			х		2 #12	#12	
9	EXHAUST FAN	EF-4	GARAGE 115	2 HP	208	1		х	NF		х	FVNR	х		2 #12	#12	2
10	EXHAUST FAN	EF-5	BREAK RM. 110	1/4 HP	120	1	х		NF	х			х		2 #12	#12	
11	EXHAUST FAN	EF-6	PROCESS 109	1/4 HP	120	1	х		NF	х				х	2 #12	#12	1
12	EXHAUST FAN	EF-7	EVIDENCE 108	1/4 HP	120	1	х		NF	х				х	2 #12	#12	1
12A	EXHAUST FAN	EF-8	OFFICE 205	3/4 HP	208	1	х		NF		х	FVNR	х		2 #12	#12	2
12B	EXHAUST FAN	EF-9	STOR. 115E	1/6 HP	120	1	х		NF	х			х		2 #12	#12	
13	BLOWER COIL UNIT	BC-2	MECH 203	10.38 MCA	208	1	х		NF	Х		VFD	х		2 #12	#12	
14	BLOWER COIL UNIT	BC-3	MECH 203	10.38 MCA	208	1	х		NF	Х		VFD	х		2 #12	#12	
15	BLOWER COIL UNIT	BC-4	/AD-1 MECH 203	10.38 MCA	208	1	х		NF	Х		VFD	Х		2 #12	#12	
16	BLOWER COIL UNIT	BC-5	MECH 203	10.38 MCA	208	1	х		NF	Х		VFD	х		2 #12	#12	
17	BLOWER COIL UNIT	BC-6	MECH 203	10.38 MCA	208	1	х		NF	Х		VFD	Х		2 #12	#12	
18	BLOWER COIL UNIT	BC-7	MECH 203	8.5 MCA	208	3	х		NF	Х		VFD	х		3 #12	#12	
19	BLOWER COIL UNIT	BC-8	MECH 203	10.38 MCA	208	1	х		NF	х		VFD	х		2 #12	#12	
20	BLOWER COIL UNIT	BC-9	MECH 115B	16.43 MCA	208	1	х		NF	х		VFD	х		2 #10	#10	
21	BLOWER COIL UNIT	BC-10	MECH 115B	7.13 MCA	208	1	х		NF	х		VFD	х		2 #12	#12	
22	VERTICAL AIR HANDLER	VAH-1	MECH 115B	9.25 MCA	208	3	х		NF	х		VFD	х		3 #12	#12	

REVERSING MAGNETIC STARTER; (MS) MANUAL STARTER-WITH OVERLOAD PROTECTION; (MSW) MANUAL SWITCH-WITHOUT OVERLOAD PROTECTION; (MCC) MOTOR CONTROL CENTER; (PB) PUSH BUTTON STARTER; (VFD) VARIABLE FREQUENCY

1. PROVIDE PILOT LIGHT SWITCH TO CONTROL EXHAUST FAN. 2. ELECTRICAL TO PROVIDE FULL VOLTAGE NON-REVERSING STARTER.



Details Raceways

MARK	DESCRIPTION	LOCATION		RATI	NG	WIRING	SIZE	
NUMBER A	DESCRIPTION	ROOM NUMBER	KW	HP VC	LT PI	CONDUCTORS	GRD.	REMARK
CU-1	AIR COOLED CONDENSING UNIT	ROOF CORR. C200	18.9 MCA	2	08 1	2 #10	#10	1
CU-2	AIR COOLED CONDENSING UNIT	ROOF OFFICE 205	18.9 MCA	2	08 1	2 #10	#10	1
CU-3	AIR COOLED CONDENSING UNIT	ROOF OFFICE 205	11.6 MCA	2	08 1	2 #12	#12	1
CU-4	AIR COOLED CONDENSING UNIT	ROOF OFFICE 205	11.6 MCA	AD-1 2	08 1	2 #12	#12	1
CU-5	AIR COOLED CONDENSING UNIT	ROOF CORR. C200	18.9 MCA	2	08 1	2 #10	#10	1
CU-6	AIR COOLED CONDENSING UNIT	ROOF CORR. C200	18.9 MCA	2	08 1	2 #10	#10	1
CU-7	AIR COOLED CONDENSING UNIT	ROOF OFFICE 205	31.7 MCA	2	08 1	2 #8	#10	1
CU-8	AIR COOLED CONDENSING UNIT	ROOF CORR. C200	18.9 MCA	2	08 1	2 #10	#10	1
CU-9	AIR COOLED CONDENSING UNIT	ROOF MECH 115B	41.4 MCA	2	08 3	3 #8	#10	1
DO	DOOR OPERATOR	SEE DRAWINGS	500 WATTS	1	20 1	2 #12	#12	13
PS	PUSH STATION	SEE DRAWINGS	WAITS		4 1	2 #12	#12	13
UH-1	UNIT HEATER	MECH 115B	25		20 1	2 #12	#12	2
UH-2	UNIT HEATER	UNSECURE 115C	WATTS 25		20 1	2 #12	#12	2
UH-3	UNIT HEATER	SECURE 115E	WATTS 25			2 #12	#12	2
			WATTS 450		20 1	2#12	#12	
ECH-1	ELECTRIC COVE HEATER	MENS 112A	WATTS 600		08 1		#12	3
ECH-2	ELECTRIC COVE HEATER	MENS LOCKER 112	WATTS 600		08 1	2 #12		3
ECH-3	ELECTRIC COVE HEATER	MENS LOCKER 112 WOMENS LOCKER	WATTS 750	2	08 1	2 #12	#12	3
ECH-4	ELECTRIC COVE HEATER	113	WATTS 450	2	08 1	2 #12	#12	3
ECH-5	ELECTRIC COVE HEATER	WOMENS 113A	WATTS	2	08 1	2 #12	#12	3
ECH-6	ELECTRIC COVE HEATER	RESTROOM 115A	750 WATTS	2	08 1	2 #12	#12	3
EWH-1	ELECTRIC WALL HEATER	STAIR 1	3000 WATTS	2	08 1	2 #12	#12	3
CE-1	CEILING EXHAUST FAN	TOILET 104B	20 WATTS	1	20 1	2 #12	#12	
CE-2	CEILING EXHAUST FAN	IT 104A	60 WATTS	1	20 1	2 #12	#12	
DF-1	DESTRATIFICATION FAN	TRAINING 110	86 WATTS	1	20 1	2 #12	#12	4
DF-2	DESTRATIFICATION FAN	TRAINING 110	86 WATTS	1	20 1	2 #12	#12	4
DF-3	DESTRATIFICATION FAN	FITNESS 113	86 WATTS	1	20 1	2 #12	#12	4
CH-1	CABINET HEATER EXISTING	VESTIBULE 100	86 WATTS	1	20 1	2 #12	#12	
CH-2	CABINET HEATER EXISTING	VESTIBULE 101	86 WATTS	1	20 1	2 #12	#12	
B-1	BOILER EXISTING	BOILER/MECH 090	2 HP	1	20 1	2 #12	#12	
B-2	BOILER EXISTING	BOILER/MECH 090	2 HP	1	20 1	2 #12	#12	
B-3	BOILER EXISTING	BOILER/MECH 090	2 HP	1	20 1	2 #12	#12	
B-4	BOILER EXISTING	BOILER/MECH 090	2 HP	1	20 1	2 #12	#12	
P-1	BOILER PUMP EXISTING	BOILER/MECH 090	2 HP	2	10 1	2 #12	#12	
P-2	BOILER PUMP EXISTING	BOILER/MECH 090	2 HP	2	10 1	2 #12	#12	
DSS-1	DUCTLESS SPLIT SYSTEM - INTERIOR	STORAGE 091	-	2	08 1	3#10	#10	5
DSS-1AC	DUCTLESS SPLIT SYSTEM - EXTERIOR	EXTERIOR	16 MCA	2	08 1	2 #10	#10	5
WH-1	WATER HEATER	MECH. 115B	-	1	20 1	2 #12	#12	9
OHD	OVERHEAD DOOR	GARAGE 115	3/4	1	20 1	2 #12	#12	6
OP	OFFICE PARTITIONS	SEE DRWGS.	-	1	20 1	6 #12	4 #12	7
PL	POLICE LOCKERS	SEE DRWGS.	-	1	20 1	6 #12, (2) #10	#12	8
CR	CORD REEL	SEE DRWGS.	-	1	20 1	2 #12	#12	10
PROJ	PROJECTOR	TRAINING 111	-	1	20 1	2 #12	#12	11
PROJ SCREEN	PROJECTOR SCREEN	TRAINING 111		1	20 4	2#12	#12	12

- CONDENSING UNIT IS FURNISHED WITH A UNIT MOUNTED DISCONNECT SWITCH. PROVIDE TOGGLE SWITCH NEAR UNIT HEATER TO SERVE AS DISCONNECT.
- ELECTRIC HEATING UNIT IS FURNISHED BY MECHANICAL AND INSTALLED BY THE ELECTRICAL CONTRACTOR. DESTRATIFICATION FANS ARE FURNISHED BY MECHANICAL AND INSTALLED BY ELECTRICAL, ELECTRICAL TO INSTALL SPEED CONTROLLER FURNISHED WITH FANS. PROVIDE INTERCONNECTING WIRING BETWEEN INDOOR UNIT AND EXTERIOR CONDENSER. INCLUDE CONTROL WIRE (600 VOLT INSULATION RATING). PROVIDE NEMA 3R SAFETY SWITCH AT EXTERIOR UNIT AND TOGGLE
- PROVIDE TOGGLE SWITCH AT UNIT TO SERVE AS DISCONNECT. INSTALL DOOR OPERATOR STATION AND WIRING. PROVIDE CONDUIT RACEWAYS FOR ALL DOOR LIMIT SWITCHES AND SAFETY SENSORS; VERIFY LOCATION OF
- SENSORS AND SWITCHES WITH DOOR MANUFACTURER. VERIFY WIRING REQUIREMENTS WITH OFFICE PARTITION INSTALLER. ELECTRICAL CONTRACTOR TO ESTIMATE INSTALLING AND WIRING (4) DUPLEX RECEPTACLES FURNISHED WITH EACH PARTITION.

 VERIFY WIRING REQUIREMENT WITH POLICE LOCKER INSTALLER. ELECTRICAL TO CONNECT TO JUNCTION BOX AT EACH BANK OF LOCKERS, RECEPTACLES ARE INTERCONNECTED BY LOCKER INSTALLER THROUGH PRE-
- WIRED HARNESSES. PROVIDE ELECTRICAL CONNECTION TO WATER HEATER CONTROL BOX AND WIRE TO CIRCULATING PUMP.
 ELECTRICAL TO PROVIDE AND INSTALL CORD REELS, PROVIDE DUPLEX RECEPTACLE NEAR UNIT TO SERVE AS DISCONNECT.
- MOUNTING OF PROJECTOR IS BY THE GENERAL CONTRACTOR. ELECTRICAL TO PROVIDE DUPLEX RECEPTACLE AS DISCONNECT AND ADJACENT DATA OUTLET.
- INSTALL SCREEN CONTROLLER FURNISHED WITH SCREEN PROVIDE ELECTRICAL CONNECTION TO DOOR OPERATOR. PROVIDE INTERCONNECTING RACEWAYS TO PUSH STATIONS WITH LOW VOLTAGE WIRING.



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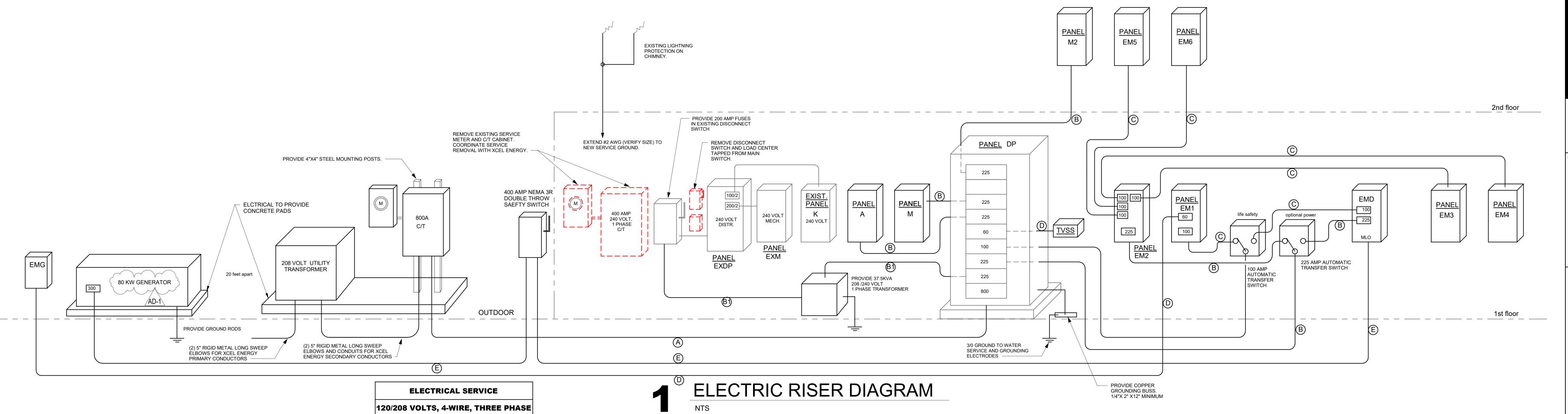
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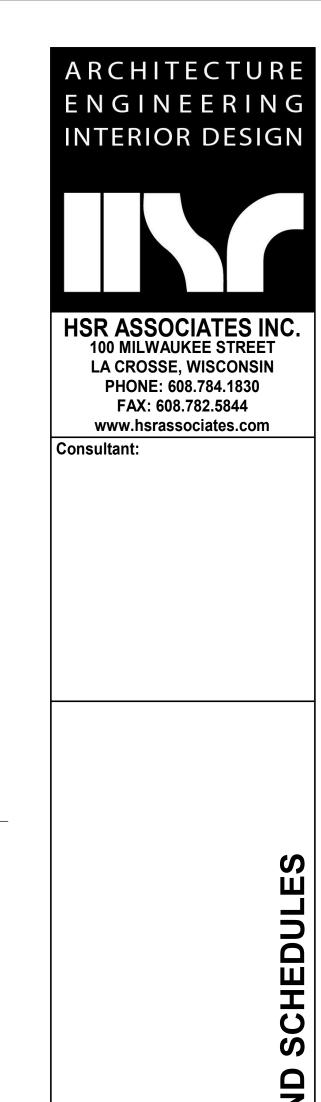
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			MOL	JNT'G	SIZ	Έ		MAIN	IS						ВІ	RANCHES		
PANEL NAME	ROOM NO.	MFGR.		SURFACE	WIDTH	рертн	ELECTRICAL SERVICE	AMP.	SDNT	BREAKER	SWITCH	FEED THRU LUGS	NO.	AMP.	POLE	CIRCUIT NUMBERS	SPACE	REMARK NUMBER
DP	MECHANICAL	SQ D		х	32"	8.5"	208Y/120 VOLT	800		х			1	800	3	MAIN CIRCUIT BREAKER		
	115B	I-LINE					3 PH, 4 WIRE						1	225	3	PANEL M		
													1	225	3	PANEL M2		
													1	225	3	PANEL A		
													1	225	2	EXISTING 240 VOLT, 1 PH SERVICE		
													1	225	3	PANEL EM2		
													1	100	3	PANEL EM1		
													1	60	3	TVSS	- -	
M	MECHANICAL	SQ D		х	20"	6.5"	208Y/120 VOLT	225	X				1	50	3	M-1,3,5 (CU-9)	42 SPACE	
	115B	NQ					3 PH, 4 WIRE						1	40	3	M-2,4,6 (MTR. #2)	1	
													2	30	2	M-8,10 (MTR. #20) M-7,9 (DSS-1AC)	1	
													3	20	2	M-13,15 (MTR.#21) M-12,14 (MTR.#4) M-17,19 (MTR.#5)	_	
													2	20	1	M-16; M-18 (MTR. #12B & #8)	_	
													4	20	1	SPARES	_	
																	_	
M2	MECHANICAL	SQ D		х	20"	6.5"	208Y/120 VOLT	225	Х				1	50	2	M2-7,9 (CU-7)	54 SPACE	
	203	NQ			20	0.0	3 PH, 4 WIRE		,				1	20	3	M2-2,4,6 (MTR. #18)	_	
													5	30	2	M2-8,10 M2-11,13 M2-12,14 M2-15,17	_	
													10	20	2	M2-16,18 (CU-1,2,5,6 & 8) M2-20, 22. M2-23,25. M2-24,26. M2-27,29. M2-28,30. M2-31,33. M2-32,34. M2-35,37. M2-36,38. M2-19,21. (CU-3,4 & MOTORS)	_	
													4	20	1	M2-39,40,41,42		
													1	15	3	M2-43,45,47		
													4	20	1	SPARES	-	
EMD	GARAGE	SQ D		х	20"	6.5"	208Y/120 VOLT	400	Х				1	225	3	FEED TO ATS AND PANEL EM2	18 SPACE	
	115	NQ					3 PH, 4 WIRE						1	100	3	FEED TO ATS AND PANEL EM1		
																	_	
EM1	GARAGE	SQ D		х	20"	6.5"	208Y/120 VOLT	100		Х			1	100	3	MAIN CIRCUIT BREAKER	42 SPACE	
life safety	115	NQ					3 PH, 4 WIRE						6	20	1	EM1-1,2,3,4,5,6	1	
													1	60	3	PANEL EMG (GENERATOR)	1	
													4	20	1	SPARES	1	
EM2	GARAGE	SQ D		х	20"	6.5"	208Y/120 VOLT	225		х			1	225	3	MAIN CIRCUIT BREAKER	42 SPACE	
	115	NQ		-			3 PH, 4 WIRE						4	100	3	PANELS EM3, EM4, EM5 & EM6	-	
													1	35	3	EM2-1,3,5	-	
													1	20	2	EM2-2,4	1	
													15	20	1	EM2-6,7,8,9,10,11,12,13,14,15,16	-	
													4	20	1	SPARES	1	
EMO		202			20"	6 F."	2007/400 7/01 T	100					1	20	2	EM3-1,3	42 SPACE	
EM3	HALL 106	SQ D NQ	X		20"	6.5"	208Y/120 VOLT 3 PH, 4 WIRE	100	X				22	20	1	EM3-1,3	TE STAGE	
														20	'		4	

			моц	JNT'G	SIZ	E		MAII	NS						В	RANCHES		
PANEL NAME	ROOM NO.	MFGR.		SURFACE	WIDTH	DEPTH	ELECTRICAL SERVICE	АМР	FNGS	BREAKER	SWITCH	FEED THRU LUGS	NO.	AMP.	POLE	CIRCUIT NUMBERS	SPACE	REMAR!
EM4	IT	SQ D NQ	х		20"	6.5"	208Y/120 VOLT 3 PH, 4 WIRE	100	х				37	20	1	EM4-1, 2-37,39	54 SPACE	
	104A	INQ					3 PH, 4 WIRE						2	20	3	EM4-28,30,32. EM4-38,40,42		
													4	20	1	SPARES		
EM5	STOR.	SQ D	х		20"	6.5"	208Y/120 VOLT	100	X				11	20	1	EM5-1, 2-11	42 SPACE	
	205B	NQ					3 PH, 4 WIRE						4	20	1	SPARES		
EM6	MECH	SQ D	х		20"	6.5"	208Y/120 VOLT	100	X				20	20	1	EM6-1, 2-20	42 SPACE	
	203	NQ					3 PH, 4 WIRE						4	20	1	SPARES		
EMG	EXERIOR	SQ D		X	14.25"	3.75"	208Y/120 VOLT	100	X				1	60	3	MAIN BREAKER	12 SPACE	
		QO NEMA 3R					3 PH, 4 WIRE						4	20	1	EMG-1,2,3,4		
													2	20	1	SPARES		
Α	MECH 203	SQ D NQ	x		20"	6.5"	208Y/120 VOLT 3 PH, 4 WIRE	225	x				1	30	2	A-1,3 (DRYER)	54 SPACE	
													2	20	2	A-1,3. A-2,4 (ELECTRIC HEAT)		
													37 	20	1	A-5, 6-41 SPARES	_	
												AD-1	4 1	30	2	A-43,45. EDH-1		
К	TABLE STR.	SQ D		х			240/120 VOLT						1	30	2	K-1,3 (CLOTHES DRYER)		
	111A	QO EXISTING					1 PH, 3 WIRE						2	20	1	K-2,4		

FEEDER SCHEDULE												
MARK NO.	CONDUIT SIZE	CONDUCTOR SIZE	GROUND SIZE	REMARKS								
A	4"	(4) #600 kcmil		2 PARALLEL RUNS								
В	2 1/2"	(4) # 4/0	# 4									
B 1)	2 1/2"	(3) # 4/0	# 4									
0	1 1/4"	(4) #3	# 8									
D	3/4"	(4) #8	# 10									
E	3"	(4) #400 kcmil	# 3									



Project Title: SPARTA POLICE STATION

LAKEVIEW

LAKEVIEW

Angust 19045

Location: 711 Pine STREET

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